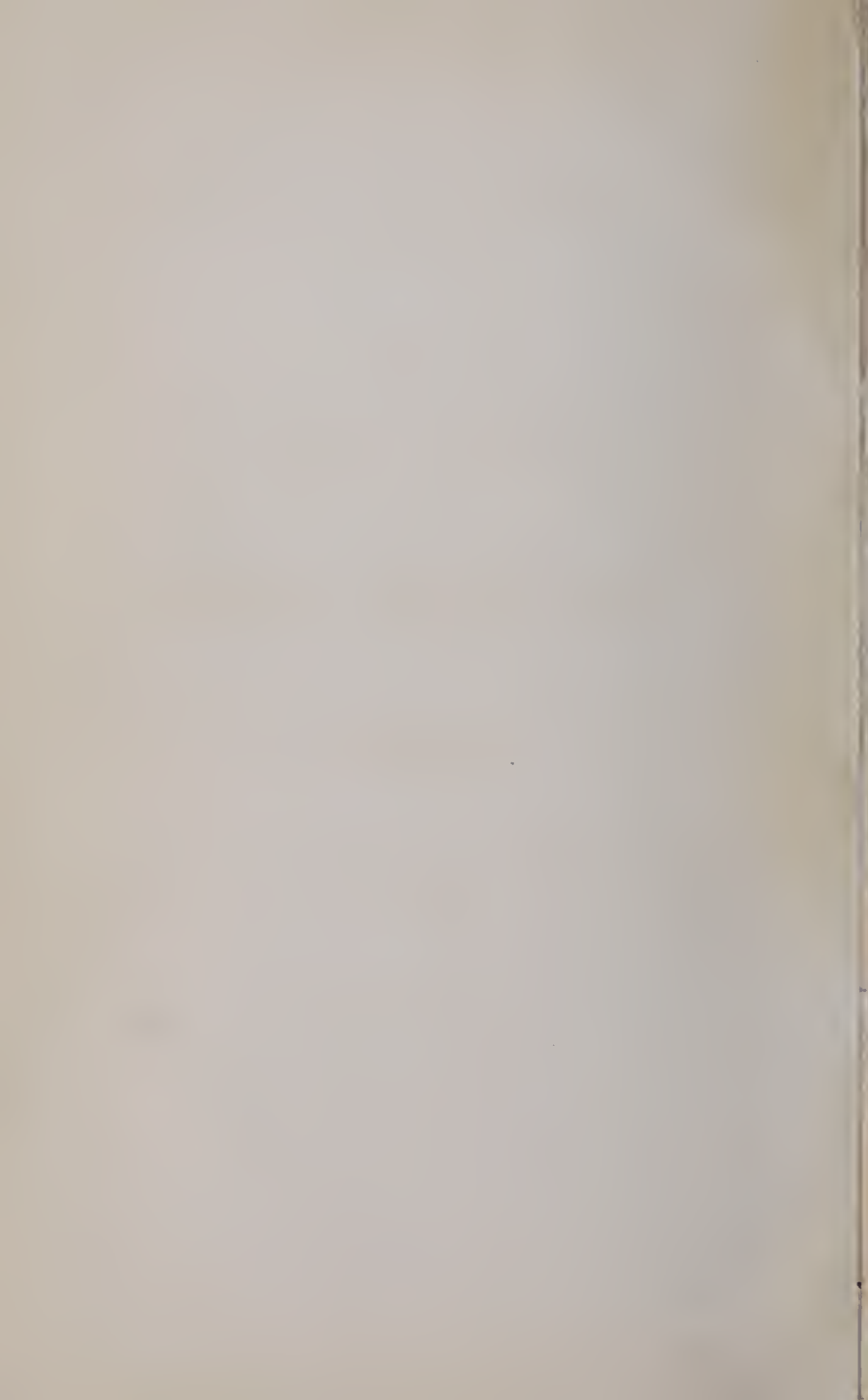








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THE  
JOURNAL  
OF  
THE ASIATIC SOCIETY  
OF  
BENGAL.

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VOL. III.

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THE UNIVERSITY OF CHICAGO

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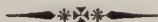
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EDITED BY  
JAMES PRINSEP, F. R. S.  
SECRETARY OF THE AS. SOC., AND HON. MEM. OF THE AS. SOC. OF PARIS.

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VOL. III.

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JANUARY TO DECEMBER,  
**1834.**

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“It will flourish, if naturalists, chemists, antiquaries, philologists, and men of science, in different parts of *Asia*, will commit their observations to writing, and send them to the Asiatic Society at Calcutta; it will languish, if such communications shall be long intermitted; and it will die away, if they shall entirely cease.”

SIR WM. JONES.

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Calcutta:

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1834.





# JOURNAL

OF

THE ASIATIC SOCIETY.

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No. 33.—September, 1834.

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I.—*Further Remarks on M. Remusat's Review of Buddhism.* By B. H. HODGSON, Esq. Resident at the Népál Court, &c.

Adverting again to REMUSAT's Review in the Journal des Savans for May, 1831, I find myself charged with another omission more important than that of all mention of the Avatars. It is no less than the omission of all mention of any other *Buddhas* than the seven celebrated Mánúshis. The passage in which this singular allegation is advanced is the following: "Les noms de ces sept personnages (the '*Sapta Buddha*') sont connus des Chinois, et ils en indiquent une *infinité d'autres* dont le Bouddhiste Nipálien *ne parle pas.*"

My Essay in the London Transactions was the complement and continuation of that in the Calcutta Researches. REMUSAT was equally well acquainted with *both*; and, unless he would have had me indulge in most useless repetition, he must have felt convinced that the points enlarged on in the former essay would be treated cursorily or omitted, in the latter. Why, then, did he not refer to the Calcutta paper for what was wanting in the London one? Unless I greatly deceive myself, I was the first person who shewed clearly, and *proved* by extracts from original Sanscrit works, that Buddhism recognises "une *infinité*" of *Buddhas*, —Dhyáni and Mánúshi, Pratyéka, Srávaka, and Mahá Yánika. The xvth vol. of the Calcutta Transactions was published in 1828. In that vol. appeared my first Essay, the substance of which had, however, been in the hands of the Secretary nearly three years before it was published\*. In that vol. I gave an *original list of nearly 150*

\* According to usage in that matter provided: a statement in which I request the present Secretary will have the goodness to bear me out.

*Buddhas* (p. 446, 449) : I observed that the *Buddhas* named in the Buddhist scriptures were "as numerous as the grains of sand on the banks of the Ganges;" but that, as most of them were nonentities in regard to chronology and history, the list actually furnished would probably more than suffice to gratify rational curiosity; on which account I suppressed *another long list*, drawn from the *Samádhi Raja*, which was then in my hands, (p. 444.) By fixing attention on that cardinal dogma of sugatism, viz. that man can enlarge his faculties to infinity, I enabled every inquirer to conclude with certainty that the *Buddhas* had been multiplied ad libitum. By tracing the connexion between the *Arhantas* and the *Bodhisatwas*; between the latter again, and the *Buddhas* of the first, second, and third degree of eminence and power; I pointed out the *distinct steps* by which the finite becomes confounded with the infinite,—man with *Buddha*; and I observed in conclusion that the epithet *Tathágata*, a synonyme of *Buddha*, *expressly pourtrays this transition*. (London Transactions, vol. ii. part i.) Facts and dates are awkward opponents except to those, who, with *REMUSAT's* compatriot, dismiss them with a 'tant pis pour les faits!' For years before I published my first *Essay*, I had been in possession of hundreds of drawings, made from the Buddhist pictures and sculptures with which this land is saturated, and which drawings have not yet been published, owing to the delay incident to procuring authentic explanations of them from original sources. All the gentlemen of the residency can testify to the truth of this assertion; and can tell those who would be wiser for the knowledge, that it is often requisite to walk heedfully over the classic fields of the valley of *Nipál*, lest perchance you break your shins against an image of a *Buddha*! These images are to be met with every where, and of all sizes and shapes, very many of them endowed with a multiplicity of members sufficient to satisfy the teeming fancy of any *Brahman* of *Madhya Désa*! Start not, gentle reader, for it is literally thus, and no otherwise. *Buddhas* with three heads instead of one—six or ten arms in place of two! The necessity of reconciling these things with the so called first principles of *Buddhism\**, may reasonably account for delay in the production of my pictorial stores. Meantime, I cannot but smile to find myself condoled with for my poverty when I am really, and have been for 10 years, *accablé des richesses*! One interesting

This delay was and is a necessary evil of the publication of an occasional volume of *Researches*. It was to obviate the inconvenience in some measure that the present form of the *Journal* was adopted, but still this is inadequate to the production of papers of any magnitude, as we fear *Mr. HODGSON* feels by experience!—*Ed.*

\* See *ERSKINE'S ESSAYS* in the *Bombay Transactions*.

result only have I reached by means of these interminable trifles ; and that is, strong presumptive proof that the cave temples of Western India are the work of Buddhists *solely*, and that the most apparently Brahmanical sculptures of those venerable fanes are, in fact, Buddhist. A hint to this effect I gave so long ago as 1827, in the Quarterly Oriental Magazine, (No. XIV. p. 219 ; ) and can only afford room to remark in this place, that subsequent research had tended strongly to confirm the impressions then derived from my very learned old friend AMIRTA NANDA. The existence of an infinite number of Buddhas ; the existence of the whole Dhyanî class of Buddhas ; the personality of the Triad : its philosophical meaning ; the classification and nomenclature of the ascetical or true followers of this creed ; the distinction of its various schools of philosophy ; the peculiar tenets of each school, faintly but rationally indicated ; the connexion of its philosophy with its religion ; and, as the result of all these, the means of speaking consistently upon the general subject\*, are matters for the knowledge of which, if REMUSAT be not wholly indebted to me and my authorities, it is absolutely certain that I am wholly *unindebted* to him and his ; for till he sent me, 10 months ago, (I speak of the date of receipt,) his essay on the Triad, I had never seen one line of his, or any other continental writer's lucubrations on Buddhism.

I have ventured to advance above that in the opinion of a learned friend, the Chinese and Mongolian works on Buddhism, from which the continental savans have drawn the information they possess on that topic, are not *per se* adequate to supply any very intelligible views of the general subject.

As this is an assertion which it may seem desirable to support by proof, allow me to propose the following. REMUSAT observes, that a work of *the first order* gives the subjoined sketch of the Buddhist cosmogony. "Tous les êtres étant contenus dans la très pure substance de la pensée, une idée surgit inopinément et produisit la fausse lumière ; Quand la fausse lumière fut née, le vide et l'obscurité s'imposèrent réciproquement des limites. Les formes qui en résultèrent étant indéterminées, il y eut agitation et mouvement. De là naquit le tourbillon de vent qui contient les mondes. L'intelligence lumineuse étoit le principe de solidité, d'où naquit la roue d'or qui soutient et protège la

\* A learned friend assures me that " a world of Chinese and Mongolian enigmas have been solved by means of your general and consistent outline of the *system*, but for which outline the said enigmas would have continued to defy all the continental Œdipuses."

terre. Le contact mutuel du vent et du metal produit le feu et la lumière, qui sont les principes des changemens et des modifications. La lumière precieuse engendre la liquidité qui bouillonne à la surface de la lumière ignée, d'ou provient le tourbillon d'eau qui embrasse les mondes de toute part."

Now I ask, is there a man living, not familiar with the subject, who can extract a particle of sense from the above passage? And are not such passages, produced in illustration of a novel theme, the veriest obscurations thereof? But let us see what can be made of the enigma. This aperçu cosmogonique of the Long-yan-king, is, in fact, a description of the procession of the five elements, one from another, and ultimately from *Prajna*, the universal material principle, very nearly akin to the *Pradhán* of the Kapila Sánkhya. This universal principle has two modes or states of being, one of which is the proper, absolute, and enduring mode; the other, the contingent, relative, and transitory.

The former is abstraction from all effects, or quiescence: the latter is concretion with all effects, or activity. When the intrinsic energy of matter is exerted, effects exist; when that energy relapses into repose, they exist not. All worlds and beings composing the versatile universe are cumulative effects; and though the so-called elements composing them be evolved and revolved in a given manner, one from and to another, and though each be distinguished by a given property or properties, the distinctions, as well as the orderly evolution and revolution, are mere results of the gradually increasing and decreasing energy of nature in a state of activity\*. *Upáya*, or 'the expedient', is the name of this energy;—increase of it is increase of phenomenal properties;—decrease of it is decrease of phenomenal properties. All phenomena are homogeneous and alike unreal; gravity and extended figure, no less so than colour or sound. Extension in the abstract is not a phenomenon, nor belongs *properly* to the versatile world. The productive energy begins at a minimum of intensity, and increasing to a maximum, thence decreases again to a minimum. Hence *ákásh*, the first product, has but one quality or property; air, the second, has two; fire, the third,

\* Causes and effects, quoad the versatile world, cannot be truly alleged to exist. There is merely customary conjunction, and certain limited effects of proximity in the precedent and subsequent, by virtue of the one true and universal cause, viz. *Prajna*. With the primitive Swobhávikas cause is not unitised: for the rest, their tenets are very much the same with those above explained in the text, only their conclusions incline rather to scepticism than dogmatism. It may also perhaps be doubted whether with the latter school, phenomena are unreal as well as homogeneous. In the text, I would be understood to state the tenets of the *Prajnikas* only.



has three; water, the fourth, has four; and earth, the fifth, has five\*.

These elements are evolved uniformly one from another in the above manner, and are revolved uniformly in the inverse order.

*Sūnyatā*, or the total abstraction of phenomenal properties, is the result of the total suspension of nature's activity. It is the *ubi*, and the *modus*, of the universal material principle in its proper and enduring state of *nirvṛiti*, or of rest. It is *not* nothingness, except with the sceptical few. The opposite of *Sūnyatā* is *Avidya*. Now, if we revert to the extract from the Long-yan-king, and remember that *la pensée* † *l'intelligence lumineuse* †, and *la lumière précieuse* † refer alike to Prajna the material principle of all things, (which is personified as a goddess by the religionists,) we shall find nothing left to impede a distinct notion of the author's meaning, beyond some metaphorical flourishes analogous to that variety of descriptive epithets by which he has characterised the one universal principle. *Tourbillon de vent*, and *tourbillon d'eau*, are the elements of air and of water, respectively; and *le principe de solidité* is the element of earth.

“*Tous les êtres étant contenus dans la pure substance de Prajna une idée surgit inopinément et produisit la fausse lumière* :”—that is, the universal material principle, or goddess Prajnā, whilst existing in its, or her, true and proper state of abstraction and repose, was suddenly disposed to activity, or impressed with delusive mundane affection (*Avidya*). “*Quand la fausse lumière fut née, le vide et l'obscurité s'imposèrent réciproquement des limites*.” The result of this errant disposition to activity, or this mundane affection, was that the universal void was limited by the coming into being of the first element, or *ākāśh*, which as the primary modification of *Sūnyatā* (space) has scarcely any sensible properties. Such is the meaning of the passage “*les formes qui en résultèrent étant indéterminées*,” immediately succeeding the last quotation. Its sequel again, “*il y eut agitation et mouvement*,” merely refers to mobility being the characteristic property of that element (air) which is about to be produced. “*De là naquit le tourbillon de vent, qui contient les mondes*.” Thence (i. e. from *ākāśh*) proceeded the element of the circumambient air. “*L'intelligence lumi-*

\* There is always cumulation of properties, but the number assigned to each element is variously stated.

† Prajna is literally the supreme wisdom, videlicet, *of nature*. Light and flame are *types* of this universal principle, in a *state of activity*. Nothing but extreme confusion can result from translating these terms *au pied de la lettre*, and without reference to their technical signification. That alone supremely governs both the literal and metaphorical sense of words.

neuse etoit le principe de solidité, d'ou naquit la roue d'or qui soutient et protège la terre." *Prajna* in the form of light (her *pravrittika* manifestation) was the principle of solidity, whence proceeded the wheel of gold which sustains and protects the earth. Solidity, the diagnostic quality of the element of earth, stands for that element; and the wheel of gold is mount Merú, the distinctive attribute of which is protecting and sustaining power: this passage, therefore, simply announces the evolution of the element of earth, with its mythological appendage, mount Merú. But, according to all the authorities within my knowledge, earth is the *last* evolved of the material elements. Nor did I ever meet with an instance, such as here occurs, of the direct intervention of the first cause (*Prajna*) in the *midst* of this evolution of the elements. "Le contact mutuel du vent et du *metal* produit le feu et la lumière, qui sont les principes des changemens." The mutual contact of the elements of air and of *earth* produced fire and light, which are the principles of change. This is intelligible, allowance being made for palpable mistakes. I understand by it, merely the evolution out of the element of air of that of fire, of which light is held to be a modification. To the igneous element is ascribed the special property of heat, which is assumed by our author as the principle of all changes and transformations. Metal for earth is an obvious misapprehension of REMUSAT'S. Nor less so is the false allocation of this element (earth) in the general evolution of the five, and its introduction here.

"La lumière precieuse engendre la liquidité qui bouillonne à la surface de la lumière ignée, d'on provient le tourbillon d'eau qui embrasse les mondes."

*Prajna* (in the form of light) produces the liquidity which boils on the surface of igneous light, whence proceeds the element of water embracing the world.

This figurative nonsense, when reduced to plain prose, merely announces the evolution of the element of water from that of fire. Our terrestrial globe rests upon the waters like a boat, according to the Buddhists; and hence the allusion (embracing the world) of the text. What is deserving of notice is the direct interference, a *second time*, (and in respect to earth, a third time,) of the *causa causans* with the procession of the elements, one from another. All my authorities are silent in regard to any such repeated and direct agency; which amounts in fact, to creation properly so called—a tenet directly opposed to the fundamental doctrine of all the *Swobhāvikas*. Certain Buddhists hold the opinion, that all material substances in the versatile world have no existence independent of *human* perception. But that the Chinese

author quoted by Mr. REMUSAT was one of these idealists, is by no means certain. His more immediate object, in the passage quoted, evidently was, to exhibit the procession of the five material elements, one from another. To that I at present confine myself, merely observing of the other notion, that what has been stated of the homogeneity and uncreality of all phenomena, is not tantamount to an admission of it. The doctrine of *Avidya*, the mundane affection of the universal principle, is not necessarily the same with the doctrine which makes the sentient principle in man the *measure of all things*\*. Both may seem, in effect, to converge towards what we very vaguely call idealism; but there are many separate paths of inquiry by which that conclusion may be reached.

Népál, Aug. 1834.

II.—*Note on two Coins of the same species as those found at Behat, having Greek inscriptions. By Major D. L. STACY, (Plate XXV.)*

[In a letter to the Sec. As. Soc. read at the Meeting of the 2nd July.]

I have the honor to enclose a facsimile of a copper coin purchased by me at Chittore Gurh.

It was my intention to reserve any notice of this coin, till I ascertained if my good fortune would send me others, more distinct, and consequently more satisfactory; but on reading the description of the famous stone pillar at Allahabad, given in your number for March, 1834, (No. 27,) I am induced to submit a few remarks with the copy of the coin†.

The style of the Greek character would, alone, be sufficient to stamp this coin as provincial, were the chungahs or symbols on the obverse, and monogram on the reverse, less distinct, or even obliterated. The suggestions of Lieutenant BURT, and Mr. STIRLING, viz. that the characters on the Allahabad Pillar No. 1, resembled the Greek, drew my attention to the plate, when it immediately occurred to me, vice versâ, that these provincial Greek characters, on my coin, might have taken their style or fashion from the writing of the dynasty, or descendants of the dynasty, which owned this pillar.

\* *Manas*, the sixth element, is the sentient principle in man. The Chinese author mentions it *not*, unless the passage beginning "la même force," and immediately following that I have quoted, was designed to announce its evolution. That passage as it stands, however, does not assert more than the homogeneity of this sixth element with the other five.

† The original coins were subsequently sent, and are depicted as figs. 2 and 3, of plate xxv.—ED.

That the Greeks did send as a subsidiary force to the assistance of CHANDRAGUPTA, son of NANDA, Rájá of the Prachi, I believe no one doubts: and contrasting all circumstances on the subject within our knowledge, we may fairly presume, that the services of this subsidiary, were paid by a grant of land (Jaédad).

In CONDER'S "Modern Traveller," speaking of these times, after relating the death of the aged NANDA by poison (given by his minister SACATARA), he proceeds, vol. vii. page 123. "The crime did not, however, go unpunished; SACATARA and all his sons, except one, were put to death; and to secure himself against hostile claimants of the crown, UPADHANWA gave orders for the massacre of all his half brothers, the children of NANDA by different mothers. CHANDRAGUPTA alone escaped, and fled to the court of PARVATESWARA 'Lord of the Mountains' or King of Népal; to whom he offered one half of his kingdom if he would assist him in taking the field against his enemy.

"In conjunction with this powerful ally, aided by a body of *Greek auxiliaries*, CHANDRAGUPTA defeated UPADHANWA with great slaughter under the walls of his capital, the monarch himself being among the slain, and took possession of the throne of his father. His promise to PARVATESWARA was now disregarded. He retained a large body of *Yavans* or *Greeks* in his pay, and fortifying his capital, set his enemies at defiance."

Concluding the Greek auxiliaries were paid by a grant of land, as by agreement the Nepális were to have been, and at the period CHANDRAGUPTA sought Greek assistance, he could have had no other means of paying them. Considering also, that the high estimation they were held in, caused them to be retained after the object, which brought them to Pryag, was accomplished, we may naturally conclude that the "Jaédad" granted to this subsidiary was very considerable.

The value of the services of the Greeks had been shewn, 1st, in the aid lent in placing CHANDRAGUPTA on the throne of his ancestor; 2ndly, in enabling the newly made king to retain that half of his territory, which he had pledged in case of success as a recompense to the Lord of the Hills.

These were services already performed: and to people, who had proved themselves so useful in his recently acquired kingdom, CHANDRAGUPTA, must for every reason, have given a substantial proof of his consideration. The marriage of CHANDRAGUPTA to the daughter of SELEUCUS\*, must have added strength to the position of the Greeks amongst

\* TODD in his *Rajast'han*, vol. i. p. 671, makes SELEUCUS marry the daughter of CHANDRAGUPTA, instead of CHANDRAGUPTA marrying a daughter of SELEUCUS. This is evidently an oversight.



the Prachi, and the appointment by SELUCUS of the celebrated MEGASTHENES as resident at the court of his Rájá son-in-law, went as far as human wisdom could do, in adding stability to their footing.

It requires more experience in numismatic lore than I can boast, to explain the meaning of the different symbols or "Chungahs" on this coin. The obverse has the word "Soter" very distinct: what letters follow I cannot say; they certainly are not the same character, but what they are, must perhaps remain a secret till further research gives us a more complete coin by which to determine. The j'har or branch is distinct, (can this be the olive branch?) the other Chungahs I cannot decipher. The monogram on the reverse is the same as that on some coins in my possession, having an elephant on the obverse\*.

The Greek jaédad or territories we may suppose grew into consideration much the same as did the Honorable Company's after their first footing: and like the infant Company too, we may suppose, the Greeks established a currency of their own, though more perhaps with a view of handing down their achievement to posterity than as a necessary medium of barter, and I think the coin (the subject of this communication) bears every mark of being of those times, of the Chandragupta dynasty.

*Note on another Coin of the same type procured by Lieut. A. Conolly, at Kanouj, by the Secretary.*

At the moment of perusing Major STACY'S remarks on the indications of a Greek inscription on the *Behat* type of coin, as it may continue to be designated until its origin be better determined, and with his two coins before me, (Pl. xxv. figs. 2, 3,) corroborating his reading†; I am most opportunely put in possession of another scion of the same stock speaking a totally different language!

Lieut. CONOLLY has already had the good fortune to make known a valuable Kanouj coin with a legible inscription, in the language and character of the Allahabad column, (inscription No. 2.) His zealous exertions have again conducted him to a brilliant discovery at the same place, of the very nature we could have desired at this moment—a coin of the *Behat* type, bearing a clear and distinct inscription: and that inscription in the *unknown character* No. 1. of the Allahabad column! Two of Mr. MASSON'S coins, it will be remembered, bore characters which were pronounced to be of this alphabet. They were

\* No. 27, Journal Asiatic Society, page 121, line xvii. The Elephant appears to have been one of the Symbols of the CHANDRAGUPTA dynasty.

† It should be remarked however that the apparently Greek letters when inverted resemble closely the Delhi character: it will be wrong therefore to assume positively that they are Greek.

of AGATHOCLES and of PANTALEÓN, of rude fabrication, and connected through the devise of a lion with another singular coin having the ⚄ symbol. These are now again brought into a double alliance with the coins of Behat and Kanouj, by the character in which the inscription is cut.

On the present silver coin there are five distinct letters, all of which will be found in the analysis of the alphabet, page 112 of the present volume. I cannot attempt as yet to transcribe these mysterious symbols in any more familiar character, but it is not too much to hope that ere long another prize from Kanouj may put us in possession of an inscription in two languages, one of which will be known and will serve as a key to the whole: meantime I proceed to describe the peculiarities of the present coin.

*Obverse.* A horse standing unattended and naked. In front appears a line of double curvature, which from analogy may be a faint trace of the lotus stalk held by the female in the Behat coin (fig. 1. Pl. xviii.)

*Reverse.* On the left, the tree symbol with its chequered frame: on the right, a new form composed of two circles touching, traversed by a common diameter, which continues above and supports an inverted crescent. Below comes the inscription before mentioned in large and clear letters: in the centre of the field is a crescent, or new moon. Above the recumbent moon is a small animal standing upon her horns, which resembles very closely that depicted on the reverse of the coin from *Behat*, fig. 1, plate xviii. The connection of this animal with the moon seems to imply some astronomical allegory: were it clearly a horse, we might imagine it to signify the new moon in the month of Aswini or in the lunar mansion of that name, the first of the 27 *Nakshatras* of the lunar zodiac, corresponding as is supposed with the star  $\gamma$  or  $\beta$  *Arietis*; in which case it might be thought to point to some event that happened at a particular epoch. Should the animal be of the deer genus, it may be taken for SASIN, the antelope or roe (sometimes translated a hare) always attendant on CHANDRA, and supposed to have been allotted to him from a fancied resemblance of the marks on the moon's face to the spotted skin of this animal\*. Sir WILLIAM JONES alludes to this attribute of the moon in his hymn to SURYA:

“Thou nectar beaming Moon,  
Regent of dewy night—  
From yon bright roe that in thy bosom sleeps  
Fawn spotted, SASIN hight—”

The compound image may further be emblematical of princely dignity; similar in import to the various armorial bearings among European nations; thus, in the ancient copper plate grant of land dug

\* See Moor's *Hindu Pantheon*, p. 293.

up at Tripura in 1803, and deeyerphered by Mr. COLEBROOKE, (As. Res. x. 403.) we find the expression:—

“From him sprung the happy chief of ministers, who exhibits the joys of unsullied glory: a spotless moon, among mortals, at sight of whom the *hare spotted lummary* appears swoln with envy and distempered with alternate increase and wane.”

I will here close this unsatisfactory tissue of conjeitures, regretting that the time is not yet ripe for doing justice to Lieut. CONOLLY's second boon towards the solution of a faintly dawning point in the pervading obscurity of Indian history.

J. P.

After engraving the figures of the three coins just described, Dr. SWINEY arrived in Caleutta with his rich cabinet of ancient coins. In it I discovered several connected with the same groupe, which he was kind enough to place in my hands. I had however reserved only room for one or two, (figures 4 and 5,) and have been obliged to content myself with the legends of the others (*b, c, d* and *e,*) to show the resemblance of the character to the Kanouj Nágari alphabet. I cannot describe these coins better than in Dr. SWINEY's own words.

“Several of them are rare, particularly the two larger with the antelope goat on one side and the warrior on the other; smaller ones of this description are not uncommon in the neighbourhood of Seháranpur. I mean in the smaller towns, and certainly not all brought from the newly discovered deposit at *Behat*. The first of the kind that I met with was stated to be brought from *Hardwár*; and there was so marked a character of the *hill goat* upon it, that it was natural to connect it with some long forgotten dynasty in the Sewálic range. There is an account to be met with somewhere, of a certain Rájá of Kemaon, by name SAKWANTA, whose domain was invaded by a certain RAJPA'L of Indrápresthá. It seems that in this case the aggressor was defeated, and SAKWANTA obtained and kept possession of the regal abode for fourteen years.

But perhaps mythology is a better key to the true interpretation of old coins. Here we have a series of coins more or less connected one with another by some common symbol of a Jain type: on one coin the horse, on another the antelope or goat, on another the hieroglyphic called Swastiká, on another the *sankh*, or sacred shell; the character of the reverse or obverse bearing some common *jantra*, sufficient to indicate the series.

Then we possess Colonel Top's testimony to the existence of such a series; for he says, he has in his possession a full series of Jain coins. I do confess however, that my belief in these coins being Jain was

shaken by the discovery of the two larger coins (figs. 4 and 5) : on the obverse of these we have the warrior figure of SIVA or his son SCANDA KUMARA, with the huge Sivian spear alluded to in MOOR'S Hindu Pantheon. On comparing this figure with the obverse of Nos. 37 and 38 of WILSON'S plates, it will be difficult to admit one and not the other among Jain coins. If rejected as a Jain coin, it may be worth while to read WILFORD'S story of SIVA'S *rusticating* himself on the banks of the Bágmatí : hence called, as writes the same authority, in some vol. of the Asiatic Researches, *Mrigasringo* : the tradition is that once upon a time SIVA appeared in the shape of an antelope, whence he took the name of *Hariniswara*, or in other words *Harinisú*, or lord of the antelope.

Perhaps as we progress to perfection in the newly discovered Sanscrit letters, the inscription upon at least three of the coins now sent will throw some light upon the subject."

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Figures 12, 13, 14 and 15, of plate xxvi. are four coins dug up in the Doáb near Allahabad, and presented to the Society, by Mr. SPIERS on the 3rd September. They appear to belong to the same class as the preceding, having a rudely executed bull on one side, and the *jhár* or branch on the other, with some ill-defined letters in strong relief and a straight chequered border below. The *jhár*, in the present day it should be remembered, is the symbol distinctive of the Jaipur and Chitore coins. The *trisul*, of those of Srinagár and Sagar. In due course of time we may be able by means of these marks to trace each species to its original locality.

Fig. 9. is a small copper coin among Dr. GERARD'S series, bearing a bull on one side and the well defined Kanouj Nágari letters राजश्री *rāja srí* on the reverse. There are two or three others of the same kind, in his collection.

J. P.

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### III.—Continuation of Observations on the Coins and Relics, discovered by General VENTURA, in the Tope of Mánikyála. By J. PRINSEP, Sec. &c.

It is with some diffidence that I now proceed to offer a few remarks in illustration of the *Mánikyála* treasures, knowing the great disadvantages under which any attempt to investigate even what may be thought so simple a matter as the antiquity of the monument must labour, when unassisted by previous knowledge of the history, mythology, or current languages of the period and of the locality to which it belongs. My object, however, is to place all the circumstances which the collateral discoveries of Messrs. MASSON, MARTIN, BURNES, GERARD, and



# HINDU COINS.

(continuation of the Behat group)



1  
 2  
 3  
 4  
 5

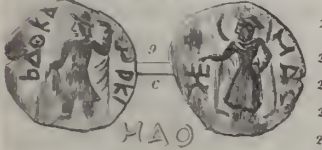


Indo-Sassanian Coin from Kabul

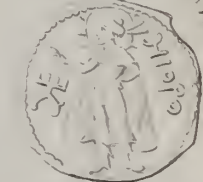
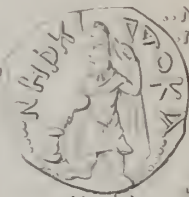


Mithraic Coins connected with the Afghan Types

ΒΑΣΙΛΕΥΣ ΒΑΣΙΛΕΩΝ ΧΑΝΗΡΚΟΥ



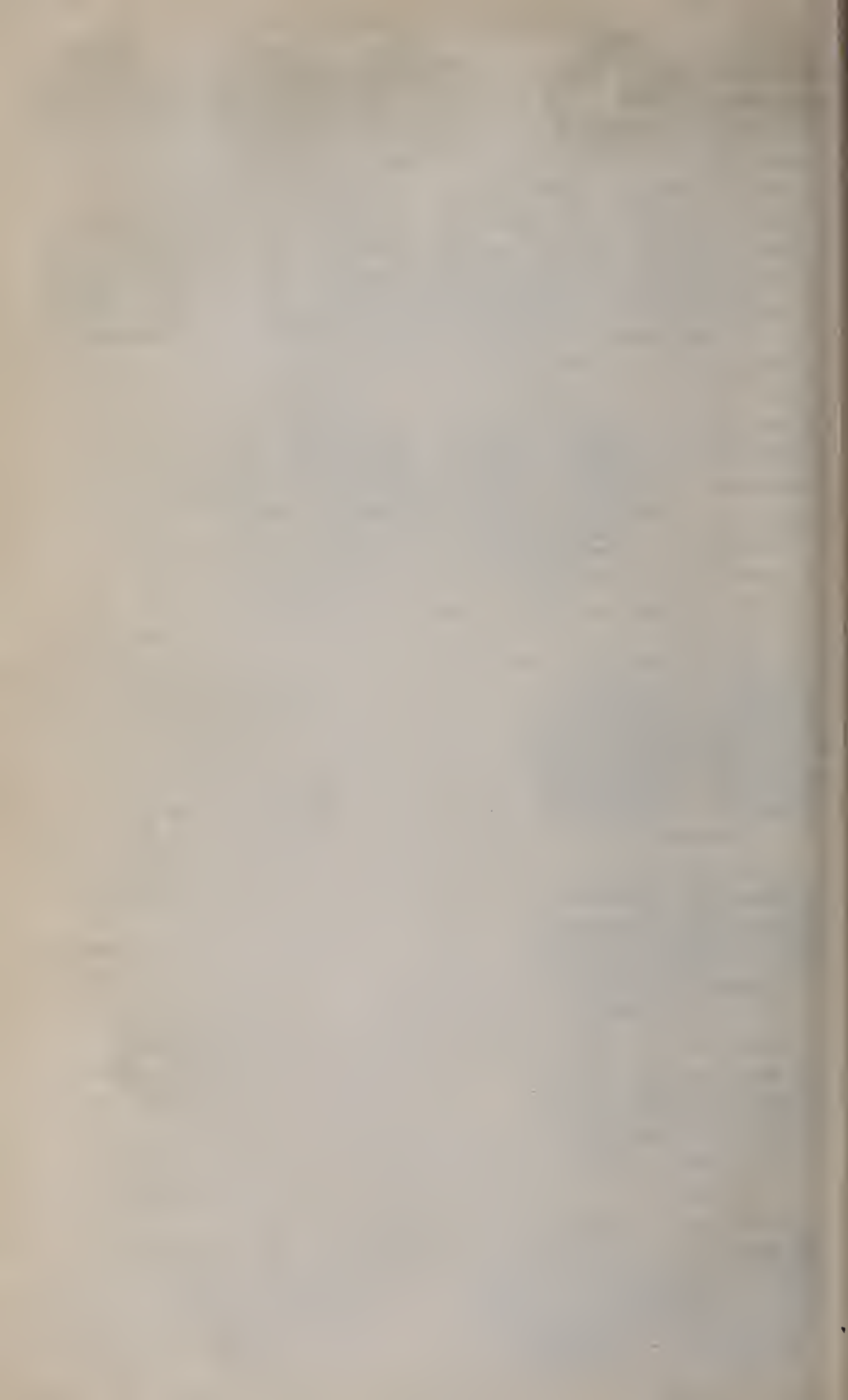
- Reverses  
figure same as HAIOC
- 12
  - 13
  - 14
  - 15
  - 16
  - 17
  - 18
  - 19
  - 20
  - 21
  - 22
  - 23
  - 24



variations  
 ..NHDKI CTOKA  
 MHDK KA  
 DK. CATHKA  
 KI...  
 ...  
 ...  
 ...  
 ...

- obverse of Manikyala Gold Coins
- 25
  - 26
  - 27
  - 28
  - 29
  - 30





KERÁMAT ALI, have brought to light, before the antiquaries of Europe, and then to await their decision on the facts: it being my own duty to act as a faithful witness before this superior tribunal, nothing exaggerating, and nothing extenuating, in the delineation of figures and inscriptions, such as they appear in the originals now in my possession.

The subject which I propose to elucidate on the present occasion is, that of the coins connected with the tope of Mánikyála; as they naturally stand forward most prominent in offering materials for fixing the date of the building.

We learn from the "état des travaux," that forty-four copper medals were found buried along with the principal cylinder, and several others in different parts of the masonry, besides the gold and silver coins enclosed in the cylinders themselves. On attempting a classification as far as their mutilated condition would allow, these were all (with the exception of two) found to be referrible to the five species depicted at the foot of plate xxii.: being in the following proportion:

Of figure 31, (shewn hereafter to belong to the Kanerkos groupe),—large,..	20
Of the same type, but smaller, (fig. 9, pl. xxv.).....	17
Of the elephant type, (fig. 28, pl. xxii.).....	15
Of the figure sitting with one foot up, (fig. 29, of do.) .....	12
Of the figure sitting cross-legged, (fig. 32, of do.) .....	4
Of the bull and raja, or Kadphisés coin, (fig. 4, of pl. xxvi.).....	2

with ten others which were too much defaced to admit of classification.

Although among these coins very few have legible inscriptions, the collections of Dr. GERARD and of SAYED KERÁMAT ALI, in conjunction with the specimens depicted by Mr. MASSON, have furnished materials for decyphering them, in considerable abundance; indeed, of the several groups specified above, I have before me upwards of three hundred coins, of which thirty-two exhibit more or less of the bull and raja inscription: twenty that of the elephant coin: as many more that of the Kanerkos legend; and half a dozen that of the seated figures.

But, before entering upon the description of these coins, of which it must be remarked that we do not know the date *à priori*, although from their possessing Greek inscriptions, we necessarily refer them to an age not very distant from the Bactrian dynasty, it will be more satisfactory to bestow a little further attention upon the silver coins found in the first gold box (see page 317,) which I have already stated generally to belong to the known dynasty of the Sassanidæ, without however venturing to contract their date within narrower limits than the duration of that monarchy, namely, from the third to the seventh century of the Christian era.

*Sassanian Coins of Mánikyála.*

The characters on the obverse of the Sassanian coin (fig. 8, pl. xxi.) are not sufficiently distinct to enable us to decypher the name, even by placing it in juxtaposition with others of the same kind, which Sir R. KER PORTER states to have been read by himself "on the principles laid down by the Baron DE SACY."

There is one peculiarity however, which (supposing his reading to be correct) will serve our purpose equally well in identifying it. I allude to the very curious ornament of two wings embracing a crescent and star on the cap of the monarch. The same ornament is visible in a coin depicted by the author just mentioned in fig. 8, plate lviii. of his travels in Georgia and Persia, and the following is the account given of it in page 130, vol. ii. of the same work.

"This piece of money is more frequently met with than any other of the Sassanian dynasty. It is larger than most of the ancient currency, and on the whole very slightly executed. The diadem of the king has the singularity of being more in the shape of a helmet than a crown; it is winged, but surmounted by a crescent and star, instead of the customary globular form. The bust is encircled by a triple range of pearls, marked in equidistant divisions by a star and crescent. The letters which compose the legend are very complicated, running into each other like rapid writing. On the face of the medal they produce *shapúri mezdezn*, &c. and on the reverse, *shapúri*, with other letters too defaced to decypher. This SHAPUR must be the second of that name, (the seventh in descent from the first, who was the conqueror of Valerian;) and he also was a great man, being surnamed *Zúlaktaf*, and renowned for his victories over the Roman emperors JULIAN, CONSTANTIUS, &c."

It must be remarked however, that the head-dress of the coin differs from that of the sculpture of this monarch at *Tukht-i-Rustam*, where his name and titles are inscribed in legible Pehlevi\*.

SAPOR II. came to the throne on the hour of his birth, in A. D. 310, and reigned nearly seventy years, which is itself a strong reason in favor of his coins being more numerous than those of other Sassanian princes, and so far corroborates the appropriation of the winged head-dress to him. He was more than once engaged in repelling the Tartar and Arab invaders of his territories. It was from his clemency to the Arabs that he obtained the surname of *Zúlaktáf*, which HERBELOT

\* I was not aware until seeing it in KER PORTER that this character had been satisfactorily decyphered; unfortunately, the As. Soc. Library does not contain a copy of DE SACY'S *Memoire sur les divers antiq. de la Perse*, which furnished KER PORTER with the key to its alphabet.



explains to signify "aux épaules." Other Persian historians however, according to HERBELOT, make the title of this monarch *Zúlaknáf* "aux ailes," or with the wings, interpreting it as an allusion to his clemency towards his Arab enemies, whom he on some occasion spared from massacre: taking it in its literal sense it may have applied to his usual head-dress, or metaphorically the title may have perhaps been typified by the device of wings upon his cap in the coins and effigies of the monarch. Assuming it to be satisfactorily proved any at rate that the silver coin in question belongs to this sovereign, we have at once a limit to the antiquity of the tope of Mánikyála, in the reign of SAPOR II.; that is, between the years of the Christian era 310—380: for it is natural to suppose that the coins deposited were of the species current at the time, as it has always been customary in the nations of the west so to deposit the current coins of the place on laying the foundations of temples, bridges, and other public works. Thus then we contract the date of the erection within the narrow space of these seventy years, which may be esteemed a sufficient approximation, in the absence of more positive information on the subject.

Before quitting the subject of the Sassanian coin, I must notice the other two coins already stated to assimilate with the Sassanian type, namely, figs. 10 and 11, of plate xxi. The headdress in these is also remarkable for the wings; although the absence of bushy hair and beard, attended with a difference of feature, forbid their being ascribed to the same prince, or at least to the same year of his reign. The chief peculiarity of these coins is their Devanágari legend, which however illegible it may be in parts, contains the initial title of respect, *Srí*, repeated twice and in the same relative position—before the title and before the name itself,—as is customary with Indian monarchs; for instance, *Srí Mahárájádhi Rája Srí Chandra Gupta*, &c. The name itself may probably be foreign.

The reverse of these coins, no longer a fire-altar with its attendant priests, bears a rudely executed front face with a head-dress of a peculiar form. Fortunately among the coins procured at Kábul by SAYED KERÁMAT ALI, there is one which serves in a great measure to clear up the mystery of this ornament. I have depicted it as figure 6, of plate xxv. On one side of it we see the front face, and winged crown of *Zúlaknaf*, SHAPUR II., with the precise ornaments on the margin of the obverse described by KER PORTER, and no Sanserit epigraphe; while on the reverse we have the mysterious head-dress of figs. 10 and 11, and the legible Devanágari inscription *Srí Vásu déva*, which is the patronymic appellation of KRISHNA the Indian Apollo.

At the epoch now established as the date of the tope, the ancient religion of Persia, the worship of the sun, or *Mithras*, had not only been restored to its former splendour among the Persians themselves, but it is acknowledged to have exercised a powerful influence on all other religions prevailing at the same time: even the Christian religion was tinctured with many of the mysteries of the Mithriac worship\*, and an attempt had been made by SCYTHIEN, TEREBINTHUS†, and lastly by MANES, in the latter part of the third century, and in the very court of the Persian monarch, to incorporate the doctrines of CHRIST with the mysteries of ZOROASTER, in a system of his own, known to the Alexandrine Church as the Manichean heresy.

It is not surprising therefore that on the Indian side of the Persian monarch's dominions, in a part probably under his influence if not directly under his sway, we should find the fire-altar, or the image of the sun, replaced by KRISHNA among the Hindus, or BUDDHA among the Bauddhists; both of them personating the sun in their respective mythologies.

Whatever forms of the Hindu religion were prevalent at the time, the adoption of the sun as the ostensible representation of divine power, either in accordance with the commands of the ruling prince, or from a natural tendency towards an union of the Brahmanical and Magian faith, could not present many difficulties. "We must not be surprised," says Sir WILLIAM JONES, "at finding that the characters of all the pagan deities, male and female, melt into each other, and at last into one or two; for it seems a well-founded opinion, that the whole crowd of gods and goddesses, in ancient Rome and modern Varânes (Benares), mean only the powers of nature, and principally those of the sun, expressed in a variety of ways, and by a multitude of fanciful names‡."

\* "La fête nommée 'Celle de la naissance du soleil invincible' (natis solis invicti) tombait au VIII<sup>e</sup> des calendes de Janvier, ou au 25 Décembre. Environ à la même époque, quelques jours après le solstice d'hiver, se célébrait la grande fête des Perses appelée *Mirrhagan* (*Mihira*, soleil; *gâhan* fête) mot qui exprime une idée analogue. L'une et l'autre de ces deux solennités avaient également rapport à Mithras. Les chefs de l'église d'occident fixèrent au même jour la célébration de la naissance du Christ, dont l'époque était demeurée inconnue jusques là." *Religions de l'antiquité, traduit de l'allemand du D. F. CREUZER, par J. D. GUIGNIAUT.*

† The assumed name of TEREBINTHUS, (BUDDAS,) has given rise to conjectures of his connection with the Hindu sacred personages of the same name, and the ancient fathers actually ascribed many of the traditions of the Bauddhists to this heretic. HYDE, however, shews the origin of their mistake. Buddas in Chaldaic has the same signification as Terebinthus in Greek, and this was the cause of his changing his name. See WILFORD'S speculations on the subject, *As. Res.* ix. 215.

‡ *As. Res.* vol. i. page 267.

The kind of radiated *coma* which surrounds the head-dress of *VÁSU DE'VA* in our coin (fig. 6, pl. XXV.) may be readily imagined to represent the glory or brilliant effulgence of the sun; it resembles somewhat the glory round the head of *Surya*, in *Moor's Pantheon*, plate LXXXVII. The same ornament appears on the reverse of the two coins from *Mánikyála* (figs. 10 and 11, pl. XXI.) but the name *VÁSU DE'VA* is wanting in these, and the Sanscrit legend is confined to the obverse, where it evidently marks the name of the young king with the winged helmet.

If the winged headdress be considered then the exclusive mark of *SHAPUR II.* we may suppose him to have possessed provinces in India, wherein he struck money, with his name and titles in the *Nágari* character; and where, to avoid offending the prejudices of the people, he omitted the altar of *Mithra*, and adopted the Hindu divinity which coincided nearest with the object of his own worship.

While we have this evidence of Indo-Sassanian rule in some quarter of the *Panjáb*, another of our coins, though but one, would seem to point out a similar connection with the *Bactrian* provinces. Among the coins of the *Kadphises* group sent down by *KERAMAT ALI*, are two gold ones of very inferior fabrication, thin like the *Sassanian* coins, and differing in many respects from the class of coins to which they are otherwise allied. One of these is depicted as fig. 10, of plate XXVI. The other is similar, except that the headdress of the prince is surmounted by a pair of wings and globe, as separately shewn in fig. 11. I thought at first that the coin might be spurious, being of gold and so vastly inferior in execution to its fellows, but it will be seen hereafter that its authenticity is well established: it is sufficient in this place to point out the above curious fact; and I therefore now proceed to review the other coins of the *Mánikyála*\* tumulus, with the hope rather of applying the epoch already found from the *Sassanian* coin, to the history of these, than to draw from the latter any additional light regarding the age of the monument.

#### *Obverse of the coins of Kanerkos.*

Beginning then with the two gold coins preserved in the cylinders of the same metal, the first remark which occurs on their inspection is, that Greek characters were still in use in the provinces of *Kábul* and the *Panjáb* in the fourth century: corrupted to be sure, but still retaining more of their original form than those of the latter *Arsacidæ*, or of the first *Sassanidæ* of *Persia*, a century anterior to them in date.

\* The Sanscrit legends on the two *Mánikyála* coins, have resisted the attempts of all the pandits to whom I could refer; even with the aid of a conjecture that they might refer to *SHAPUR II.* of *Persia*, or, though less likely, to *KRISHNA.*

The next observation which offers is, that none of the words of the inscription are Greek; neither the titles of the Indoscythic sovereigns of Bactria, ΒΑCΙΑΕΥC ΒΑCΙΑΕΩΝ, nor even Greek terminations to the words, being any longer apparent (with exception of two ΚΑΔΦΗCΕC coins upon which the Greek legend was barely perceptible). It was not until I had carefully analyzed all that was legible of the fresh supply of coins of the same nature, that I was able to distinguish the direct *consanguinity* of the whole of these barbaric descendants with their comparatively pure progenitors above mentioned.

Nearly the whole of the Bactrian series of coins is now known to us.

Those of pure Grecian fabrication, such as the beautiful silver medal of EUTHYDEMUS brought down by Lieut. BURNES, of which Dr. GERARD has recently favored me with a duplicate, simply bear the head of the sovereign on the obverse, and his name, along with a figure of JUPITER, HERCULES, or some other god, on the reverse, after the fashion of their Syrian prototypes\*.

The coins of MENANDER, APOLLODOTUS, and EUCRATIDES, as well as those of ANTILAKIDES, HERMÆUS, UNADPHERROS, and other princes made known through Mr. MASSON'S successful researches, have invariably an inscription in Pehleví or some unknown character on the reverse, while the name and titles of the sovereign, instead of running straight across the field as in the Macedonian coins, encircle the device on the obverse, in the manner of the Roman coins of the same period, which were then no doubt current extensively in the east.

The Pehleví inscription continues on the coins of ΚΑΔΦΗCΕC, which we may conclude from their comparative rarity in the Mánikyála collection to have belonged to a different province from those of *Kanerkos*, or to have been antecedent to them by a period sufficient to render them scarce in the district.

The fortunate discovery by Dr. MARTIN HONIGBERGER of one of the coins of this prince in a tope near Kábul, corroborates the idea of a separate seat of government; and the device of the bull (and SIVA?) points to a different creed from that of the *Kanerkos* series, which bear an image, as will presently be shown, of the sun; and thus appear more nearly allied to the Persian creed.

At the period however, of the erection of the Mánikyála monument, a considerable change had taken place in the designation of the princes of *both* countries: at least we find a similar alteration in the inscription of the coins of both; the devices in other respects remaining unaltered or only deteriorated in execution.

\* See Journal As. Soc. vol. ii. plate xi.



The alteration to which I allude, is the omission of the Greek title ΒΑΣΙΛΕΥΣ ΒΑΣΙΛΕΩΝ, and the substitution of ΡΑΟ ΝΑΝΟ ΡΑΟ, or simply ΡΑΟ. That such was the case may be proved from numerous coins in Mr. MASSON'S plates; I have however endeavoured to make the transition still plainer by placing together in Plate XXV, drawings of the coins which I imagine to be thus allied. Figures 7 and 8, are from very perfect specimens of the genuine Kanerkos coin in copper, the first sent me by ΚΕΡΑΜΑΤ ΑΛΙ, the second by Dr. GERARD: while figures 10 and 11, are from other equally well preserved coins in my own enriched cabinet. The devices will at once be pronounced to be identical.

Of the legend on the first two coins I need add nothing to what has been before said: of the others, I have collected, to the right hand of figure 10, the various readings extant, and, beginning on the right hand, we find as before stated ΡΑΟΚΑ . . . ΝΗΡΚΙ, which I suppose to be equivalent to βασιλευς Κανηρκου\*; the break between ΚΑ and ΝΗΡΚΙ seeming to have been merely caused by the want of space below the device, while the dots between the Α and the Ν may be intended to denote their immediate connection.

If we now turn to the Kadphises group in Plate XXVI. we find precisely the same change of designation, at the foot of the plate on the right-hand side, where for the sake of saving space, the terminating words only of the Greek inscription are engraved.

The first part of the full inscription on the elder type of these coins, both the large and the small, is correctly given by Mr. MASSON, as ΒΑΣΙΛΕΥΣ ΒΑΣΙΛΕΩΝ ΣΩΤΗΡΜΕΓΑΧ†. The name ΚΑΔΦΙΧΟC is itself not very distinct in any of the ten coins whence my inscriptions are copied, but coupled with Mr. MASSON'S authority, it may be fully relied on. The intervening letters are more uncertain: the various readings are ΟΟΧ, ΟΚΜΟ, ΟΟΚΜΟ, ΟΟΗΝ, ΟΟΜΟ. The two *omicrons* cannot well be intended

\* We have no authority for writing it *κανηρκος*, since it always occurs with the genitive termination *ου*, although united to *βασιλευς* in the nominative.

† Mr. MASSON'S Memoir is so full on the subject of the Kadphises coins that I have not thought necessary to add anything thereto. I may here however point out that the portion of Colonel TOD'S bull and raja coin, which SCHLEGEL could make nothing of (As. Res. xvii. 579), has been successfully developed by the more perfect specimens now obtained. What the Professor decyphered as ΙΗΡΝΙΕΙΟC and ΕΔΟΒΙΓΡΙΟC are evidently (supplying the two first letters of *saviour*) ΣΩΤΗΡΜΕΓΑΧ ΚΑΔΦΙΧΟC. SCHLEGEL considered the name to be of a Tartar Khan, or Indo-Scythian prince. Colonel TOD however leaned to a Parthian origin, whilst the Bactrian kingdom was subject to Parthian kings; this view seems the most probable from several considerations, such as the fire-altar, the costume, and the *Pehlvi* inscriptions.

as stops to denote the termination of the inscription, to which purpose they would be applied in the Zend, or Pehlevi; nor can the intervening word be an epithet, coupled with *μεγας*, for the same word occurs on the gold medal found by Dr. MARTIN\*, with the simpler form ΒΑΣΙΛΕΥΣ ΟΟΗΜΟ ΚΑΔΦΙΧΗΣ. The only probable conjecture is this, that *Ookmo* or *öhemo* may be a part or an adjunct of the name of the prince.

Quitting this dubious ground, and descending to the inferior coins of the bull type, we find legends 11, 12, 13, 14, and 15, expressing more or less legibly the same term PAO NANO observed on the Kanerkou group.

In the same manner, fifteen of the elephant coins afford, some entire, and some in part, the legend PAO NANO PAO in place of the title, and some few, as that depicted in the figure 31, of Plate XXV. have the word ΚΕΝΠΑΝΟ, which until contradicted by more satisfactory testimony we may assume to be the prince's name on this coin. In some coins this name seems written ΚΕΝΟΠΑΝΟ.

The two copper coins having seated figures, 29 and 32, of the Mánikyála Plate, XXII; also 32 of Plate XXV., and 3 of Plate XXVI.; have, though in fewer examples, furnished unequivocal fragments of the same legend or title, PAO NANO....

The coin with the running figure, on the contrary, has only (in the three legible samples of our collection) yielded portions of PAO KA.... ΝΗΡΚΙ, and is therefore in all respects similar to the secondary form of the *Kanerkou* medals. The above includes all of the Indo-Scythic type yet known: Mr. MASSON restricts them to four distinct sets (page 174), and in fact so judicious had been his survey of the group, that we have not been able to add one new type to his list.

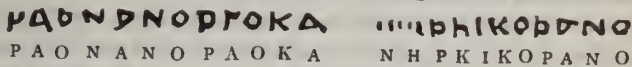
We now turn to the two gold coins of the Mánikyála cabinet, having, from the above cursory survey of the more numerous copper coins, become possessed as it were of a key to their solution.

It was some little time before I discovered that the inscriptions on the larger gold coin of the first Mánikyála deposit, (Plate XXI. fig. 2,) and the little gold coin of the lower cylinder (Plate XXII. fig. 24,) bore precisely the same legend on the obverse. The first half of the writing on the small coin was not legible; and it was only after perceiving the analogy of the latter half, with the second part of the larger coin, that I was led by careful examination, to trace and recognize the rudiments of each letter of the first part of the obliterated coin. I have in the present Plate, XXV., placed the two in juxtaposition, (figs. 25 and 26,) to shew their identity, and the whole line thus restored becomes very evidently

\* See the drawing of this coin by MASSON, in Plate XIII.

PAO NANO PAO .. OOHPKI KOPANO.

There is some indistinctness, and perhaps an omission, about the central portion of this inscription, where portions of the letters are cut off, or entangled with the ornamental head-dress of the prince; but we are fortunately able to clear up this uncertainty from a coin depicted as No. 2 of Professor WILSON's plates, in the seventeenth volume of the *Researches*, and stated by my predecessor to have been discovered in a field near Comilla in Tipera. The inscription on this coin, of which the fac simile in type metal, cut for the *Researches*, is fortunately in my possession, is now rendered legible by our acquired knowledge of its associates; I here place the corrected reading under the fac simile:


  
 PAONANOPAKA NHPKIKOPANO

and it at once enables us to supply the omission in the centre of the *Mánikyála* gold coins by the name already so familiar to our ears, as *Kanerki* or *Kanerkou*.

Are these various coins then all the production of one sovereign, or was the superscription of that prince maintained by his successors, and gradually lost by the corruption of the Greek characters, in which it was endeavoured to be conveyed? To these questions a satisfactory answer cannot be given in the present state of our knowledge; but we cannot avoid remarking that the *..KENOPANO* of the elephant coin may, by a very trifling alteration, be read as . . . . *..KI KOPANO*, which will bring it to coincide with the other coins of this extensive family.

The degeneration of individual letters is sufficiently visible in the various forms of the *P*, the *A*, the *K*, and the *M*, in the specimens engraved, but a more wholesale abandonment of the primitive form may, I think, be pointed out in the third gold coin of Mr. WILSON's plates, being one of what we have called the bull and raja, or Kadphises, coins. The legend on this is very prominent, and contains, under a trifling disguise, the very letters of the same sentence; the first letter *P* is wanting, and the three final letters of the last word

*Fac simile,*



*Corrected reading, (ρ) A O N A N O P A O O O H O K O P (avo)*

The collection received from KERAMAT ALI has put me in possession of two gold coins of this curious species; (which was indeed held to be of doubtful origin, from Colonel MACKENZIE having apparently multiplied fac similes of his in silver;) they are thin, and of exceedingly clumsy manufacture, but the legends in both are plain, though much more transformed than the specimen just given. Fig. 10 of Plate XXVI represents one of these coins, and fig. 11, the principal characteristics of the other, namely, the inscription, the king's head, (already alluded



to as wearing the winged cap of the Sassanian monarchs,) the fire-altar, and the symbol, all more or less varied. The inscription now possesses but three characters, P, N, and O, the latter having swallowed up all the angular A's and P's ; and the N assuming all the functions of M and K. Bearing this in mind, the lower line may be read without any fanciful straining, O PAONANO P . O KOPA...

Fig. 10 is equally capable of the same interpretation, for beginning on the left hand, at the bottom, what appears to be

POOHOPOOBO UUVO VOPOHO

is evidently letter for letter a corruption of

PAONANOPAO OOH O KOPANO

The letter of the whole series of these curious relics of a dynasty entirely unknown from other sources having been so far developed, as regards the obverse of the medals, it remains, before we proceed to consider the variable motto on the reverse, to offer a few observations on the meaning these enigmatical words *rao nano rao* and *korano* may be intended to convey.

First then, as regards the termination in the short Greek O ;—we learn from M. EUGENE BURNOUF'S very learned commentary on the Yaçna, in the introductory essay on the Zend alphabet, that the latter contains a short o unknown to the Sanscrit alphabet and used as the equivalent of the short Nágari inherent a, while on the other hand it has precisely the value of the Greek omicron\*. To express therefore any native word, so terminating, in the Greek character, the omicron would necessarily be employed. We know from the circumstance of the Zend or rather Pehlevi characters on the obverse of the Bactrian coins, that this dialect must have been the prevailing language of the country. Moreover from the learned, authority above quoted we learn, that the termination in *do* is of very frequent use in the Zend, the final o being the regular permutation of s, the sign of the Sanscrit nominative in words common to the two languages : thus in *ahura-mazddo* (ormuzd), the latter word is precisely the Sanscrit *mahá-dás* ' qui magna dat,' an attribute of the

\* It is unnecessary to state that in the Zend as in the European alphabets, the vowels are all expressed by distinguishing symbols. M. BURNOUF in speaking of a change of vowel orthography between the Sanscrit and Zend says ; " Ce changement devra peu étonner sans doute, si l'on pense que dans l'Inde même l'a bref Dévanágari vaut o suivant la prononciation Bengálie, et e bref comme nous l'avons déjà remarqué plus haut. Dans ce cas l'ó Zend n'est pas en réalité l'ó Dévanágari c'est plutôt l'omicron grec, en tant qu'il répond à l'a Sanscrit et à l'e Latin dans les mots que ces trois langues possèdent en commun."—*Commentaire sur le Yaçna par Eugene Burnouf, vol. I. p. 59.*



deity : again " la lune porte en Zend le nom de *máo* : et *máhya*, lunaire, avec le suffixe des adjectifs *ya* est derivé de *máh*, qui est exactement le Sanscrit *mas*, (lune)."

The reiteration of the term *ráo* in the expression *rao náno rao*, contrasted with its single employment in other instances, bears so strong an affinity to the duplication *βασιλευς βασιλεων*, in Greek ; *malkan-malká*, in Pehlvi ; *rájádhi-rája*, in Sanscrit, &c. that it is hardly possible to resist the assumption of a similar interpretation for the words in question, more especially when it is known that the term *rao* is to this day a common affix to the names of native Marhatta and Rajpút princes ; such as MULHAR RAO, GOVIND RAO, TRIMBAK RAO, &c. The Persian title *ráy*, conferred by the Dcllí emperors on Hindu princes as an inferior grade to *rájá*, had doubtless a similar meaning, and like *rex*, *ré*, *roi*, may be all traced to the original Sanserit root *राज*, the quality of rule or passion (both equal privileges of royalty !)

The title *Bala-ráya*, or *Bala-rao*, is stated by WILFORD to have been equivalent in the spoken language of Gujerat, to *Bala-rája*, ' the great king.' The *Bala-ráya* dynasty of that country was composed of petty kings, and the title was contra-distinguished from *Rájéndra* the superior or imperial sovereign\*. Mr. WILSON in his notes on the ancient inscriptions on Mount Abu† enumerates the following titles as denoting progressively decreasing grades of rank ;—*mahárájádhirája*, *rája*, *rána*, *ráwel*, *rási*, and *ráo*. The appellation *rawel*, according to Col. TOD‡, was the ancient title of the princes of Mewár. It was only changed to *rána* in the twelfth century. *Raoul* or *rawel* is still the designation of the princes of *Dungurpur* and *Jesalmér*.

That *rao* was an inferior title will not injure its applicability to the princes of the Panjáb and Bactria, at the time in question, for it is known that the country was divided into petty sovereignties, and it is probable that many were tributary to the Persian monarch.

Without a dictionary of the Zend, the right interpretation of the word *nána* can only be attempted in the same hypothetical manner : as a name it is frequently met with among the Parsís of the west of India, and equally among the Marhattas of Guzerát and the Dakhan ; NANA GOVIND RAO, NANA COWASJEE, NANA FARNAVÍZ, the Púna minister, and many other familiar names might be adduced in evidence. That it is some title of nobilitude (if I may use the expression) can hardly be doubted, though its precise import be not known : the word *Nána*

\* Asiatic Researches, vol. ix. p. 179.

† Asiatic Researches, vol. xvi. p. 314.

‡ Tod's Rájasthán, vol. i. p. 213.

is inserted in WILSON'S Sanscrit dictionary as bearing the signification, <sup>1</sup> without, except; <sup>2</sup> many, various; <sup>3</sup> double, or two-fold, as *nánárasa*, many-flavoured; *nánárúga*, many-coloured:—in the same way we might read, knowing the close connection of the Zend with the Sanscrit, *ráo nána ráo* 'royal doubly royal;' which has so far a strict analogy with *rájádhi raja—rex-super-rex*. I am unable to offer any more probable conjecture on the meaning of this word.

The final designation *korano*, bears at first sight a strong resemblance to the Greek *κοιρανος*, princeps, dominus: but as the introduction of a word, seldom or never used in this sense upon coins, would imply an increasing knowledge of a foreign tongue at the very time when in other palpable instances it was falling into disuse and oblivion, such an explanation cannot be allowed for a moment. The next analogy which strikes the imagination is, to the modern title *sáhib-i-qirán*, borne by three of the Delhí monarchs, TIMUR, SHAH JEHAN and MUHAMMED SHAH. The explanation of this epithet has been given in various ways, as "lord of the fortunate conjunction of the planets;" "the august hero;" "the sovereign who has reigned through a certain term or lustrum," (10, 20, 30, 40, 80, or 120 years,) "lord of the horns or rays." In the latter sense it bears an analogy to *zú-l-karnáin*, the common title of ALEXANDER the Great, literally "aux cornes," with the horns, in allusion to the horns of Ammon depicted upon his head in most of his medals. Here again is a connection not to be passed over unobserved with the application of *zú-l-aknáf*, "aux ailes," to the parallel instance of the winged head-dress of SAPOR in the Sassanian coin before described.

*Kirana* is Sanscrit as well as Persian: no doubt therefore some derivative form of the same root will be found in the Zend: it signifies a ray of light, a sun or moon beam: *karana* also signifies an interval of time. It is probable therefore that the epithet *koráno* may have some reference to the designation of the Moghul emperors, who, it may be remarked, brought it into Hindustán, though many centuries afterwards, from the country which was the scene of KANERKI'S rule.

Of the word preceding *koráno*, the variations in reading on different coins are so great, OOH, OOMO, OMKO, &c. that I cannot venture an opinion on the subject further than, as it appears also in the pure Greek inscription of KADPHISES' coin, it must probably form part of a proper name. On the two Mánikyála gold coins however, the reading is distinctly OOMPKI (or OOHPKI, for the H and M are nearly alike), while on CAREY'S coin before described the initial is equally distinct, and the testimony is strong in favor of reading it as KANHPKI, with the same termination asis found on the well-preserved coin fig. 10, of Plate XXV.

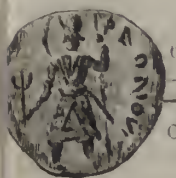
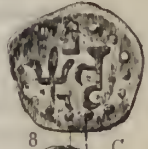
Image of Buddha  
 dug up in a ruin 2 miles S.E of Kabul

Seated figure  
 with  
 primitive greek  
 inscription

Seated figure  
 with  
 Corrupted greek  
 inscription



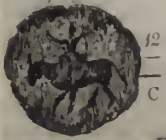
Coins of Kaulphises



Inscriptions on do

ΒΑΣΙΛΥΣ ΒΑΣΙΛΕΥΗ ΣΩΤΗΡ ΜΕΤΑ(ΣΟΟ)ΥΧΧΥΔΦΙΣ-Ι 1

see page 411



Gold

Gold II.

10



- 2 -- ΔΟΚ ΜΟΙ ΔΑΦΙΝΕΤΑ
- 3 ΟΟΚΙΤΟ ΗΥ
- 4 ΣΟΗΤΗΧΥΔΦΙΣ
- 5 ΣΟΗΤΗΧΥΔΦΙΣ
- 6 --- ΙΚΦΔΦΙΚΗ
- 7 ΣΟΗΤΗΧΥΔΦΙΣ
- 8 ΣΟΗΤΗΧΥΔΦΙΣ
- 9 ΣΟΗΤΗΧΥΔΦΙΣ
- 10 ΣΟΗΤΗΧΥΔΦΙΣ



Corrupted greek

Symbol

Altar



- 11 VTONANO
- 12 VTONANO
- 13 PTONAN
- 14 PTONAN
- 15 VTONANO

Βημισφ αραιφ





Should this prove to be the right reading, we have thus the full inscription on the obverse PAO NANO PAO KANHPKI KOPANO, which may be interpreted "king of kings, *Kanerki* the splendid."

I have not alluded to the hypothesis advanced in my former note, that *KANERKOS* might be the *Canishka* of *Cashmírian* history, because the discovery of the *Sassanian* coins, and the consequent modern date of the present monument, at once overthrow that supposition. It may however be urged in explanation of the great abundance of the *Kanerki* coins, that this name may be one of a family, or dynasty, like that of *Arsaces*, on the *Arsacidan* coins, repeated without further distinction than an alteration in the features and dress of the monarch, throughout the whole line from the real *Kanerki* downwards.

*Inscription on the reverse of the Kanerki coins.*

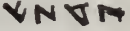
I now proceed to offer a few remarks touching the inscription and device on the reverse of the *Manikyála* coins of the *Kanerki* group.

That the image represented on all these coins is a sacred personage may be gathered from the glory which invariably encircles its head. In this respect they resemble their *Grecian* prototypes, upon which we behold the figures of *Jupiter*, *Hercules*, *Apollo*, and *Castor* and *Pollux*.

The costume of our mythological figure however, differs greatly from the *Grecian* model, and in the specimens best preserved, as fig. 10, of Plate XXV., it resembles the *Persian* dress with its peculiar turbaned hat, and a thin flowing robe hanging from the shoulders.

There are four varieties of attitude, attended with other peculiarities, which it will be better to couple in description with what we have to say on the epigraph of each.

The first variety is already well known from *Lieut. BURNES'* and *MASSON'S* specimens: a beautiful coin of this type is engraved in Plate XXV. from one of *KERÁMAT ALI'S* collection.

The figure is wrapped in a flowing muslin robe, of the *Indian* character: it faces the right hand; it is apparently a female, and it bears a lotus. The motto is, *NANAIA*. Portions of the same name are seen on all of the copper coins in which the figure faces to the right hand. It is also discoverable in the *Tipera* gold coin (No. 2, of *WILSON'S* plates) already alluded to, in the before inexplicable fragment , the first mark of which is part of the device and not a letter: the next three letters are evidently *NAN*.

*Mr. MASSON* has conjectured very plausibly, that this name is identical with *Náni*. There are he says, numerous shrines throughout that country known to the *Muhammedans* as the *zeárats* of *Bíbí Náni*. The *Hindus* also resort to them, claiming the lady as one of the numerous forms of the goddess *Párbatí*.

Colonel WILFORD mentions in the third and fourth volumes of the Researches a goddess called by STRABO, ANAIA and equivalent to the Sanscrit *anáyasá dévī*, which seems to have a near connection with the object of discussion. "Even to this day," says this learned mythologist, "the Hindus occasionally visit the two *juálá-mukhís* or the burning springs (of naphtha) in *Cusha-dwipa* within: the first of which dedicated to the goddess Dévī with the epithet *anáyasá* is not far from the Tigris; and STRABO mentions a temple on that very spot, inscribed to the goddess *Anaias*:" again, "*anáyasá-dévi-sthán* (now Corcur) was the *της Αναίας Ιερον* of STRABO\*."

He afterwards alludes to some Hindus who had visited the place: "I have been fortunate enough to meet with four or five pilgrims of India who had paid their devotions at this holy temple of the goddess ANAIA or ANAIAS, with its burning mouth or *juálá-mukhí*: it is near Kerkook, east of the Tigris†."

The circumstance of the burning fountain is of material importance, as it will be seen by the sequel that it connects *nanaia* with the other devices of the reverse, and with the general and national fire worship to which it is imagined they may all be traced. The inscriptions accompanying this appellation are generally speaking of pure Greek; had they been otherwise, it might have been doubted whether *nanaia* were not the adjectival or feminine form of the word *nána* on the obverse.

The goddess *Nanaia*, or *Anaia*, again bears a close analogy in name and character to the *Anaitis* of the Greek, and *Anahid* of the Persian, mythology; that is, the planet Venus, and one of the *seven fires* held sacred by the latter people. M. GUIGNIAUT's remarks on the subject may be applied to the figure on our coin:—"Le culte simple et pur du feu, dominant dans les premiers âges, se vit bientôt associer le culte des astres et surtout des planètes. . . . Les feux, les planètes, et les génies qui y président sont au nombre de sept, nombre le plus sacré de tous chez les Perses; mais trois surtout se représentent sans cesse comme les plus anciennement révéérés, le feu des étoiles ou la planète de Vénus, *Anahid*; le feu du soleil, ou feu *Mihr*; le feu de la foudre, ou feu *Bersin*, Jupiter. Le culte du feu *Guschasp* ou d' *Anahid* figure comme un culte fort antique dans les livres Zends et dans le Schah Nameh, de même que celui d' *Anaitis* dans une foule d'auteurs Grecs depuis Hérodote. . . . Or *Mitrá* (feminin de Mithras) et *Anahid* ou *Anaitis* sont une seule et même déesse, l'étoile du matin, génie femelle qui préside à l'amour, qui donne la lumière, et qui dirige la marche harmonieuse

\* As. Res. vol. iii. p. 297 and 434. † As. Res. vol. iv. p. 374.

des astres avec les sons de sa lyre dont les rayons du soleil forment les cordes\*.”

The object in the hand of our *Nanaia*, fig. 7, Plate XXV., is not however a musical instrument, but rather a flower, or perhaps the mirror appertaining to Venus.

The larger gold coin from *Manikyála* has apparently an expanded form of the same name: it is read MANAOBAFO in page 316, but from the similarity of M and N in the corrupted Greek of the period in question, I entertain little doubt that the correct reading is NANAQ (for *vavaia*), with some affix or epithet BA or BAFO or BAAO, which could only be made out by one acquainted with the Zend language.

On the other hand the horns of the moon projecting from the shoulders of this figure, assimilate it strongly to a drawing in HYDE'S *Rel. Vet. Pers.* p. 114, of *Malach-baal*, to which also the last four letters of the inscription bears some resemblance. *Malach-baal* or *rex-baal* is only another name for the sun. Those who incline to the latter interpretation will of course class this reverse with those of HAIOQ, to which I shall presently advert.

A remarkable variation from the genuine Greek reading occurs in one of the specimens published by Colonel GOD in the *Transactions Roy. As. Soc.* vol. i. plate xii. fig. 14, on a coin of PAOKA . . . (*vnpκi*). The word *nanaia* here appears under the disguise of NANAQ, and this is an important accession to our knowledge, both as shewing that the Greek name corresponded to the vernacular, and as proving from the Zend termination in *áo* the link with the Sanscrit *andýasa*.

The second type of the Kanerkou reverse represents a male figure, dressed in a frock, trowsers, and boots: he is in a graceful attitude, facing the left, with the right arm uplifted and the left a-kimbo. He has a turban and a glory, which is in some instances radiated.

The designation on the higher class of this type is uniformly HAIOQ the sun, and there can be no doubt therefore concerning its nature: moreover in the subsequent series, wherein the Greek language is suspended and the letters only retained, a corresponding change is observed in the title, while the same dress of the 'regent of the sun' is preserved, and enables us to identify him.

The Romans and Greeks, as we learn from HYDE, always dressed Mithra in the costume of a Persian king: thus on various sculptures inscribed *Deo Mithrâ Persarum*, "visitur MITHRA seu Sol, figurâ humanâ Regis Persici qui subijit taurum eumque calcat necatque†." This very

\* Religions de l'Antiquité du Dr. CREUZER, par GUIGNIAUT, ii. 731.

† *Historia Religionis veterum Persarum*, 112.—The expression of Lucian's in *Deorum Consilio*, is also thus rendered by GUIGNIAUT:—"Ce *Mithras* qui vêtu de



common attribute of MITHRA slaying the bull, which is supposed to typify the power of the sun subjecting the earth to the purposes of agriculture and vegetation, might lead to the conjecture that the figure on the reverse of the Kadphises coin was also MITHRA with his bull; the dress however is different: neither is there any appearance of a sacrifice; the reading of the Zend inscription can alone clear up this difficulty, and I will in a future plate collate all the inscriptions which are sufficiently legible for the examination of the Secretary of the Paris As. Soc., whose researches in this language point him out as the most competent scholar to undertake the solution of the problem.

In Plate XXV. (figs. 12 to 24). I have engraved such of the substitutes for ΗΑΙΟC as are most distinct in my cabinet, beginning with the well developed characters of fig. 10. It requires no stretch of imagination to discover in the first six of these, the word ΜΙΟΡΑ, written ΜΙΘΡΟ or ΜΙΟΡΟ, according to the Zend pronunciation, *Mihira* being the Sanscrit and Persian name for the sun.

Thus when the reformation of the mint nomenclature was effected, by the discontinuance of Greek appellations, we perceive that the vernacular words were simultaneously introduced on both sides of the coin; and the fortunate discovery of two coincident terms so familiar as *helios* and *mihira* or *mithra*, adds corroboration to the identity of the titles of the monarch on the obverse, and his names, Kanerki and Kanerkou.

The number of coins on which ΜΙΟΡΟ appears is very great: it always accompanies the ΡΑΟ ΚΑ . . . . ΝΗΡΚΙ form: see Colonel Tod's plate in the Royal Asiatic Society's Transactions, vol. i. plate xii. fig. 11, in the 3rd series; also figure 12, which belongs to the sitting-figure type. It is frequently found also on the elephant coin, see fig. 12, of Tod: and fig. 31, of WILSON (Asiatic Researches xvii.) Figure 33, of my own Plate XXV. is a small copper coin from the Mánikyála tope in which it is also recognizable. I find it likewise on several of the sitting-figure coins, figs. 29 and 32, of Plate XXII: but what is of more consequence in our examination of the Mánikyála relics, it is discernible on the reverse of the small gold coin (Plate XXII. fig. 24,) although I did not recognise the individual letters when I penned the description of it in page 319.

As we proceed down lower in the list in Plate XXV. the purity of expression is altogether lost, and the word ΜΙΟΡΟ degenerates into ΜΑΟ or ΗΑΟ, and ΜΑ or ΗΑ, for the Μ and Η are with difficulty distin-

la candys et paré de la tiare, ne sait pas dire un mot de Gree au banquet de l'Olympe, et n'a pas même l'air de comprendre que l'on boit le nectar à sa santé."—*Rel. de l'Ant.* 738.



guished. Many of the coins, containing this form of the word, are complete, and seem to have borne no other letters. We might almost be tempted to discover in this expression another cognomen of the Sun or of Bacchus, IAO and IA, about which so much discussion appears in the works of the Fathers, on the Manichean heresy and the doctrines of the magi, in the third century\*. The Greek mode of writing the word, to be sure, is different, but the pronunciation will be nearly alike, and as the word was of barbaric origin, (being taken from the Hebrew *Iaho* or *Jehovah*,) some latitude of orthography might be expected in places so distant. This is however but a vague hypothesis to account for the presence of a name in connection with a figure, which is known from its identity with the ΗΛΙΟΣ type of figure 8, to represent that deity. A multitude of symbols and names, under which the sun was worshipped or typified at the time that the Christian doctrines were spreading, and the old religions as it were breaking up and amalgamating in new groups, will be found enumerated in the learned work of BEAUSOBRE. The engraved stones, amulets, and talismans ascribed to the Gnostics and the followers of BASILIDES, &c. bear the names of *Iao*, *Adonai*, *Sabaoth*, and *Abraxas*, all of which this author traces to divers attributes of the sun. But it is impossible to pursue the subject into the endless labyrinth of cabalistic mythology in which it is involved:—That the image on our coins represents the sun or his priest is all I aim to prove.

There are two other forms of the inscription on this series that it is more difficult to explain: many of the coins with the elephant obverse have very legibly the whole, or a part, of a word ending in ΑΘΡΟ; in some it is as clearly ΜΑΘΡΟ.

Now, although both these words may be merely ignorant corruptions of the original form *Mithra*, it is as well to state that they are both independently pure Zend words, and capable of interpretation, albeit more or less strained and unnatural, as epithets or mythological attributes of the sun, or as we may conjecture, through that resplendent image, of Zoroaster the son and manifest effulgence of the deity.

\* “ Il faut convenir aussi qu'*Iao* est un des noms que les Payens donnoient au Soleil. J'ai rapporté l'oracle d'*Apollon* de Claros, dans lequel *Pluton*, *Jupiter*, le *Soleil* et *Iao* se partagent les saisons. Ces quatre divinités sont au fond la même: *Eis Zeus*, *eis Adης*, *eis Ηλιος*, *eis Διονυσος*. C'est à dire “ *Jupiter*, *Pluton*, le *Soleil* et *Bacchus* sont la même chose. Celui que est nommé *Dionysus* dans ce dernier vers est le même qui est nommé *Iao* dans l'oracle. *Macrobius* rapporté un autre oracle d'*Apollon*, qui est conçu en ces termes: φράζω τὸν παντῶν υπατον θεὸν ἔμμεν 'Ιάω ' *je vous declare qu'Iao est le plus grand des dieux.* *Macrobe* bien instruit de la *Theologie Payenne*, assure que *Iao* est le *Soleil*.”—*Histoire de Maniché*e par *De Beausobre*, tom. ii. p. 60.

Thus in the last number of the *Journal Asiatique*, in a learned essay on the origin of the word Africa, the Zend word *athro* is quoted as equivalent to the Greek *αἰθήρ*, the pure subtle spirit or region of fire, or of the sun, very imperfectly expressed by our derivate *ether*.

Of the word *Máthra*, or *ΜΑΘΡΟ*, we find a lucid explanation in M. BURNOUF's commentary on the *Yaçna*, a part of the *vendidad-sadè*. In the passage where he analyzes the Zend compound *tanumāthrahé*, 'corps de la parole,' *mathra* is thus shewn to be the equivalent of the Sanscrit word *mantra* :—

“ Il faut reconnaître que cet adjectif est un composé possessif, et traduire : ‘ celui qui a la parole pour corps, celui dont la parole est le corps ; ’ et peutêtre par extension : ‘ parole faite corps, incarnée. ’ Cette interprétation ne saurait être douteuse ; car le sens de *tanu* est bien fixé en Zend, c'est le Sanscrit *tanu*, et le Persian *تن* (corps) ; et celui de *máthra* n'est pas moins certain, puisque ce mot Zend ne diffère de Sanscrit *mantra* que par l'adoption de l'*ā* qui aime à précéder *th* et les sifflantes, et par l'aspiration du *t* laquelle résulte de la rencontre de la dentale et de la liquide *r*. ”

' La parole ' is explained by M. BURNOUF to signify ' la parole d'Ormuzd, ' the word of God, or incarnation of the divinity. A title frequently used in the *Zendavesta*, to designate Zoroaster (*Zarathrusta*).

Thus I have endeavoured to prove, that all of this class of figures refer to the sun, under his various names and attributes :—the only exception I can adduce is in figure 11 of Plate XXV. exhibiting the reverse of a copper Kanerki coin, in very good preservation. The context of its long inscription has hitherto baffled my attempts at decyphering ; but I am inclined to class it along with the *NANAIA* reverses.

Under the risk of being tedious, I have now gone through the whole series of corrupted Greek coins connected with the Mánikyála tope, and I trust that the result of my investigation will serve to throw some new light on the subject. I have ventured to give the appellation of “ Mithriac ” to the very numerous coins which have been proved to bear the effigy of the sun, for they afford the strongest evidence of the extension of the religion of ZOROASTER in some parts of Bactria and the Panjáb at the time of its re-assumption of consequence in Persia ; while the appearance of Krishna on the field at the same time proves the effort that was then afloat, as testified by the works of the Christians, to blend the mysteries of magiism with the current religions of the day. I cannot conclude this branch of the Mánikyála investigation better than in the following extract from Moor's *Hindú Pantheon* : “ So grand a symbol of the deity as the sun ‘ looking from his

sole dominion like the God of this world,' which to ignorant people must be his most glorious and natural type, will of course have attracted the earliest adoration, and where revelation was withheld, will almost necessarily have been the primary fount of idolatry and superstition. The investigators of ancient mythology accordingly trace to this prolific source, wherein they are melted and lost, almost every other mythological personage; who, like his own light, diverge and radiate from his most glorious centre."

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*Postscript on the image of Buddha from Kábul.*

The Bauddha image represented in figure I of Plate XXVI. is described in the Proceedings of the Asiatic Society, of the 6th August last, page 363.

It was discovered by Doctor GERARD in the course of some excavations made by him in the ruins of an ancient town about two miles south-east of Kábul, and near a modern village called *Béní hissár*.

According to the description given by MOHAN LÁL, the image was not found in an insulated tope, but in a mass of bricks and rubbish, which more resembled the ordinary ruins of a desolated town. After penetrating through a mound of such debris, a chamber of masonry was by accident found in entire preservation, the walls of which were ornamented with coloured stones and gilding; and here the statue was discovered. It was evidently the ruin of some Bauddha temple, or oratory in a private dwelling, that had been deserted on the demolition of the town. The image itself has been partially mutilated, as if in a hurried manner, by striking off the heads of the figures with a hammer; one only has escaped: the principal figure has lost the upper part of the head. This mode of desecration points to an irruption of Muhammedans in their first zeal for the destruction of graven idols. The faces at Bamián are described by Lieut. BURNES to have been mutilated in a similar way, while the rest of the figures remain tolerably perfect. The town was probably plundered and destroyed; such of the Buddhist inhabitants as escaped, taking refuge in the neighbouring hills, or in Tibet, where the religion of Buddha continued to flourish. The age of the image, if this conjecture be well founded, will be about ten centuries, falling far short of the antiquity of the topes themselves, and having no immediate connection with them, unless as proving the continued prevalence of the Bauddha doctrines in Kábul to the latter period, a fact well known from other sources.

The lambent flame on the shoulders is a peculiarity not observed in any image or drawing of Buddha that I have seen. It seems to denote a Mithriac tinge in the local faith. The solar disc or glory behind the

figure is a common appendage to sacred persons in every creed; and the angels above, as well as the groupes on either side, are of frequent occurrence.

IV.—*Journal of a Tour through Georgia, Persia, and Mesopotamia.* By Capt. R. MIGNAN, *Bombay Eur. Reg. F. L. S. and M. R. A. S.*

[Continued from p. 339.]

It was a fine morning when we quitted our encampment *en grande tenue* to descend to the shores of the Araxes. On reaching its banks, we found its width about three hundred and fifty feet, and we crossed it by a stone bridge of fifteen arches in a very dilapidated state. The vestiges of a second stood a short way up the river, and in its ruined condition presented one of the most deserted scenes that could be imagined. A little to the eastward lies the extensive plain of Mogaum, which during summer is rendered nearly impassable from the innumerable heaps of snakes which cover its surface. I saw several of their cast skins, which resembled the *Cobra di capello*. This sufficiently establishes the account given by Plutarch of POMPEY the Great, who after having overcome the Albanians wished to follow the enemy to the shores of the Caspian, but was reluctantly obliged to abandon his design in consequence of the snakes which occupied the intervening plain. GIBBON doubts the account of the existence of venomous reptiles in this country as related by PLINY.—(GIBBON'S Roman Empire, vol. iv. chap. 46, note 5).

On leaving the Araxes, or according to the present appellation, the Arras, the country assumes a wild aspect. It consists generally of high mountains, divided by narrow valleys, or plains environed by elevated hills, accessible only by narrow passes and defiles. Hence, it is one of the strongest countries in the world, and its inhabitants have always preserved a partial independence. They have been often defeated, but never subdued; and although tributary to ABBAS MIRZA, the Governor of Azerbijân, are in general free. In fact the country is almost impracticable, and of very easy defence. Having traversed a narrow plain on the river's border of about three miles in extent, we arrived at the foot of a steep bank, which we ascended, and travelled on a farsang, or four miles further in a direction S. S. E. when we gladly saw the village of Khomorlu, situated upon a deep ravine, between steep calcareous and barren mountains. The inhabitants, who dwell in wretched hovels scooped in the ground, are notorious plunderers and assassins; but excuse their own depredations from a conviction



that the whole world are their enemies. These villagers appeared the poorest I had yet seen. Both sexes were clad in rags, and the children to the age of seven or eight were invariably naked. They appeared to me to possess neither food nor furniture beyond the milk of a few sheep and goats, and a scanty supply of grapes, which in the summer season grow on vines that spring up between the clefts of the rocks. I ascended a lofty eminence behind the village, which commanded an admirable view of the Araxes. No outlet for the stream appeared in any one direction, the curves of the river's banks enclosing the opposite points gave it the appearance of a lake completely 'land-locked;' while detached rocks rising at a distance in a pyramidal form gave an increased magnificence to the scene.

Quitting these poor borderers, who were ground and crushed by Prince KHOSROU like corn between the upper and nether mill-stones, we proceeded in an easterly direction, and crossed the bed of a river, or rather mountain-torrent, in which the actual stream of water when we passed was not above four yards in breadth, though the channel itself was at least forty. It falls into the Araxes about ten miles eastward of the bridge, in a direction north and south. We travelled to a village called Molaun, distant about seventeen miles from Khomorlu. The general direction of the road was south by east. The country was singularly wild; indeed, our road lay over a succession of mountains, which stretched in continual lines as far as the view extended. No soil covered the rocks, no verdure enlivened them; a few bushes of the melancholy wild cypress, and some stunted oaks, comprised the whole of the vegetable world at this season. The approach to the village was both difficult and dangerous. From this the direction of our road varied from S. E. by S. to S. S. E. a distance of three farsangs, or twelve miles, to the hamlet of Ruswár, standing in a scene as desolate, and in a valley as gloomy, as can well be imagined. Not even a tree marks the course of a stream that gives water to the inhabitants. All bespeaks misery and mistrust, as the neighbouring hills are haunted by a number of predatory tribes. My host, whose poverty was perhaps his greatest crime, had on the preceding evening lost his only daughter. The robbers had stolen her in lieu of tribute! At this place we certainly had an opportunity of observing the extreme misery of the peasantry, who in addition to heavy taxes, by which they were already oppressed, were subject to such perpetual depredation from free-booters, that those who were not already ruined by contribution and pillage, found it prudent to present an appearance of the most abject wretchedness as their only security against further exactions.

The road continued over an uninterrupted succession of mountains, and was almost impassable for loaded cattle. We continued ascending until mid-day, when on arriving at the summit of the highest range of hills, a most beautiful scene suddenly and unexpectedly burst upon the view. The prospect was rendered doubly interesting from our having so long traversed a barren waste. The sloping sides of the mountains were thickly studded with the stunted oak. From this point, on looking back, the eye reposed upon successive ranges of mountainous ridges, which gradually decreased in height until they marked the more level country on the banks of the Araxes. Upon the extreme and broken line of the horizon, the lofty hills of the fruitful province of Kárábágh arose in towering grandeur; while immense piles of rock in the foreground, appearing as if thrown up from the very bowels of the earth by some great convulsion of nature, completed the sublimity of the scene. The general direction of these ranges seemed nearly east and west, and they might extend from two hundred and fifty to three hundred miles. Their outlines in Káradágh were more even, and their summits less elevated than those of Kárábágh, as we saw no snow on the former, whereas the latter presented most extensive patches of the purest white. The northern sides of both these ranges might, however, be more thickly covered with snow, from their being less exposed to the dissolving influence of the sun. The great eastern plain of Mogaum presented an horizon like the sea, broken only by small eminences, arising like cliffs and islets out of the water.

We still continued to ascend some barren hills, and felt the weather excessively keen. The thermometer by dawn of day (February 19th) sunk to 28°. Our beards were frozen, and the nostrils of the baggage horses completely choked up with ice-balls, which made it necessary to halt frequently and rub them off. We suffered most severely from thirst and the dazzling reflection of the sun's rays upon the snow, which tanned our faces to such a degree, that we could not wash without suffering extreme pain. It was noon when we reached a small village called Dombry, where we were served with *lubbun*, or curdled sour milk. The elevation of this place above the level of the sea must exceed five thousand feet, for the boiling point on a thermometer of large dimensions varied from 207° to 203°, which, allowing five hundred feet to each degree, gives an elevation of from two thousand five hundred, to four thousand five hundred feet. In three hours from Dombry we descended the rugged mountains which bound the northern side of the plain of Ahar. These ranges appear to be a branch of Mount Caucasus, which bound the territories of Irivan and Nacjiwan,

and here take an easterly direction. To the south of us, about three miles, were seen a few trees on the brow of a hill. These surrounded the town of Ahar, and were now become remarkable objects; for since leaving the shores of the Araxes, with the exception of a few hilly tracts in the hamlet of Ruswar, we had scarcely seen a tree throughout our track. This general bareness of wood gives a very forbidding and unclancholy aspect to a country, however productive it may be in other respects. A lover of the picturesque would soon become tired of this monotonous appearance. We descended across the plain of Ahar for nearly an hour, and opened a full view of the Ahar river winding in its course to the westward. Still descending, and going nearly south, over deep snow, we came near the water's edge. There was here a ruined building with a domed top, and some arches in its walls; it was perhaps an old well, as the tombs of the Mohammedans are often enclosed. We went from hence to the westward along the northern bank of the stream, over a flat shelving land, when we came immediately opposite to Ahar, which stands on the southern side of the river.

We found no difficulty in crossing, as the river's greatest depth did not appear to be more than five feet. Its waters were extremely turbid, more so than those of the Kur, and much inferior to them in taste. The town of Ahar is the capital of Karadaugh, or the "Black Mountain," as the whole district is designated. It would appear to be the Hara of antiquity, one of the three cities mentioned in 1 Chron. ch. v. 26 ver., to which the Reubenites, the Gadites, and the half tribe of Manasseh, were carried away by PUL, King of Assyria, and TILGATH-PILNESER, King of Assyria. The letters in Hara exist also in Ahar, and a transposition of syllables, or letters having the same sound, is very common in the east. Its relative position with Khalcal, and Abhar would also favour the conjecture. The river runs nearly east and west, and is extremely narrow, infinitely more so than the Araxes. It undergoes a variation in its height during the year, but this is irregular, as there are no periodical rains; and if in spring these give an increase of waters to the tributary streams, the melting of the snows on Mount Savalan, in the autumn, contribute an equal portion.

Ahar contains about six hundred houses, and from five to six thousand inhabitants. It has four mosques, a public bath, a spacious caravansary, and a good bazar. Its streets are narrow, but apparently clean, and some of its houses are plastered with Persian inscriptions, bearing the date of their erection. On the southern side of the town, upon an elevated spot, stands the tomb of Sheikh SAAB-UL-DEEN, the teacher of Sheikh SEFFI, the founder of the family of Seffeviah, better

known in Europe as the Sophis. The mausoleum is of brick, with a foundation of stone, and faced by a portico flanked by two pillars encrusted with green tiles. The whole forms a decoration to the town, and is in good taste. This place is under the dominion of H. R. H. Prince ABBAS MIRZA, and is governed by his eldest son MOHAMMED MIRZA, who has only a few personal attendants, and no soldiers whatever, although the town is supposed to be fortified and of great strength. The reception given to KHOSRO MIRZA, by his elder brother, was like that of a slave to his master, and the manner in which this "sprig of nobility" treated his entertainer in return, was quite *à la Persienne*; or, in other words, as much in the spirit of the despotic Shah whom he served. The quarters which were provided for us were sumptuous and elegant when compared with those of the villages through which we had passed before, and our several entertainers vied with each other in proffering their choicest collations. We were lodged in the house of a lively and intelligent Persian, who was the governor's *ferosh bashec*. He was most anxious to know how his countrymen had behaved during their late mission, and on my assuring him that they all got dead drunk every night of their lives, he exclaimed, "Would to God Prince KHOSRO had permitted me to accompany him, what delights I have lost! In your company I might have committed any excesses with impunity!" I told him that the debauchees in the metropolis of my own country would have stood no chance with the young Prince, and as to his proceedings since we had crossed the Araxes, such as sheep-stealing and village-plundering: these were little foibles done in so gentlemanly a manner that they gave *eclat* to his pedigree. My host remarked with a laugh, that such proceedings were the inevitable consequences of his calling, and that all his family, including the old Shah himself, had practised them before. He seemed to think that the axiom "*Il faut vivre*" was a very compulsory one in Persia. "And what has the Prince Royal been doing lately?" I asked: "has he been performing the same sort of achievements?" "Even so," he replied, "His Highness is gathering in his due to pay the troops." "You mean," I rejoined, "for the support of his haram, a prosperous harvest to him." "God's will be done," continued my friend, "a few hundred men can do any thing." In this, however, he was mistaken, for the "few hundred men," we afterwards heard, were attacked by a superior force from the hills, and most of the "posse comitatus" laid on the field! So much for Persian finance. It is even worse than rent-collecting in Ireland.

The height of the town of Ahar above the sea, as estimated by the temperature at which water boils (205½° of Fahrenheit) may approach



to 3,300 feet. LESLIE'S hygrometer only fell to 30°, which may be attributed to the moisture of the air by the melting snow, for the climate is naturally very dry. Our position appeared so close to Mount Savalan that I was desirous of attempting its ascent, but the natives informed me that we were at least nine farsangs, or thirty-six miles off; and that there was no regular road leading to it. Such is our deception of the distances of mountains, in an open and bare country, which presents no succession of objects by which the eye may calculate relative distances.

This mount is greatly venerated by the Persians. It derives its name from a Sherif, or lineal descendant of the prophet Mohammed, whose dead body they say still lies in one of its numerous chasms in the highest preservation. The peasantry of the surrounding plain insist that upon its summit the ark of NOAH rested, and describe the curiosities in its neighbourhood as very numerous. Its ascent would doubtless be most interesting, and at the same time most dangerous. I saw a man who assured me he had some years ago accomplished it.\* He described the undertaking as extremely hazardous, as it is surrounded with high, and partly snow-covered, walls of rock, which must be ascended to reach the top, immensely steep and fatiguing to attain: but when attained, a magnificent and striking view of Alpine scenery astonishes the beholder. The peak is surmounted with a wreath of snow, whose border is beautifully fringed and fantastically shaped.

While we were smoking our kaliuns in the evening, immediately before Savalan, with a bright moon throwing her silver touches along the line of its rugged points, I was apprized that the Prince's astrologer had been examining the stars, and according to his divination, the suite could not depart for Tabríz until the expiration of *seventy hours*; it was then to quit the town gates at midnight, to enable KHOSRO MIRZA to enter his father's capital three hours and a half after sunrise, that being the most fortunate moment of the day, agreeable to astrological calculation. This caused us to make preparations to complete the remainder of the journey alone, and consequently we departed from Ahar on the 22nd of February, at the hour of noon, with a thick mist, which at this time of the year is common to Karadaugh. After having cleared the suburbs, the fog took off, and we traversed the plain on a bearing of west. The river Ahar wound its way through

\* Captain SHEE of the Madras Infantry effected its ascent in 1827 with a party of English travellers: an account of the trip is given in Monteith's Survey-Tour, Journ. Geog. Soc. iii. 27. The tomb and skeleton were found on the summit, some of the dried flesh and pieces of the winding sheet still adhering to the bones.—ED.

the white unbroken surface, till it terminated in the horizon. This stream takes its rise at the village of Uzumdil, and flows throughout the district. In an hour after leaving the town of Ahar we stopt at a poor hamlet to quench our thirst. During the whole journey I suffered exceedingly, and by eating snow found that my lips were parched and burnt the more. In fact my mouth became more and more inflamed, my desire for drink fearfully augmented, and a lassitude crept over me which water alone could dissipate. The most essential article in our equipment was a small pot, in which we melted and boiled the snow water. This last is the most necessary part of the process; for if the snow is merely melted, the water has a smoked and disagreeably bitter taste; but if the water is allowed to boil, and then cooled by throwing in plenty of snow, it becomes most refreshing and delightful to the taste, and perfectly satisfies the thirsty and harassed traveller.

We traversed the plain in a westerly direction still, and commenced the ascent of an abrupt mountain, composed of schistus and pudding stone. Upon our left appeared the lofty Savalan, and although the sun's last beams had quitted our airy position, they still illumined the mount.

“ It stood before us

A mount of snow fretted with golden pinnacles.”

On descending the south-eastern face of the mountain, we obtained an extensive view of the valley below, whose romantic scenery I had not seen equalled in the stupendous regions of the Caucasus. At nightfall we reached a village on an eminence called Shehruk, and halted for the night. A crowd of women and young children collected about us, and vied with each other in proffering their assistance, some ran off for sour milk, and others to prepare bread and cheese. These lively females wore no veils, and their plumpness was well set off by large turbans, loose jackets, and capacious trousers. They all spoke the Turkish language, and appeared disappointed on finding that we were unable to converse together. Our next evening's halt was made at Khojah, a small village seated on a hill, and beside a salt stream. Our quarters at this place were most wretched, and to complete our misery, the fleas which had always been extremely troublesome were here as voracious as bull-dogs. We discovered nothing which prevented their biting the exposed part of the body, though the natives spoke of a particular grass which drove them away. The natives of the country suffer in some degree from them, but their flesh does not swell much. Nothing will keep them at bay, but smoke from wood-fires, nor will this do unless we completely envelope ourselves in the midst of it, which would nearly cause suffocation or blindness. They are

extremely greedy, and if the body of one that is sucking is cut in half, it still appears to suck, and the blood flows from where it was severed in two. Night and day they are equally annoying: it is vain to lie down at any prescribed hour, for no sleep can possibly be obtained, unless we are completely exhausted by fatigue; and in the morning the face is rendered frightful to look at, and the hands and legs covered with blood. The flies also were almost as bad as the fleas; they were larger, though not so poisonous.

Khojah is the property of one MIRZA BABA, who holds the appointment of Physician to the Prince Royal. Some years ago this erudite pupil of Esculapius was sent to London by ABBAS MIRZA, for the purpose of studying medicine, and he resided in the metropolis for a considerable time, but it appears he was too lazy to obtain his diploma. As he was temporarily attached to the suite of Prince KHOSROU, I had an opportunity of seeing a good deal of him; and like most Asiatics that I have met, his countenance was so entirely at variance with his conduct as to defy the boasted science of a physiognomist. He always considered his kaleun a part of himself; and in excuse for being "Entre deux vins," he stoutly maintained that owing to the cold and moisture of the weather, it was highly salutiferous to swallow a dram whensoever it could be obtained. His sobriety, however, was unimpeachable, he could drink all day with impunity: you might as well have attempted to intoxicate a sponge. In fact, the only advantage he appeared to have gained over the rest of his countrymen was that of having added *our vices* to his own.

[To be continued.]

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V.—*Observations on the Golden Ore, found in the Eastern Provinces of Mysore in the year 1802. By Lieut. JOHN WARREN, H. M. 33rd Regiment.*

[On looking over the manuscript papers of the Asiatic Society, we have found the following account, dated in 1802, of the mines near Venkatagiri in the Carnatic, which, as it gives the original observations of an officer of ability, known as the author of the Kala Sankalita, we are induced to publish at this moment, when the gold mines of the opposite coast are attracting public attention both at home and in India.—ED.]

As I was employed in surveying the eastern boundary of Mysore in the month of February, 1802, I heard a vague report that gold had been found in the earth somewhere near a small hill, about nine miles east of Budicatta\*, and on which the frontier I was then describing

\* Yerra Baterine Hill.

was shortly to take me. I accordingly directed my people to make every inquiry which might tend to establish the fact, and offered a reward to any who would communicate information respecting it.

This being held out throughout the country within my reach, a ráyat of a small village called Wurigam, presented himself and offered to show the place, which he asserted was close to his village.

Being unwilling to interrupt the service on which I was then employed, I requested, before taking any steps, that a quantity of the impregnated earth might be brought and examined in my presence: accordingly on the 11th of February, this man returned to Battaman-galam, where I then was, with twenty loads of earth, which being tried, yielded a proportion of gold dust as had been asserted.

Having thus satisfied myself that there actually was in the neighbourhood a certain spot where the earth was impregnated with gold, I resolved on visiting it: and accordingly sat out for Wúrigam on the 17th of February, accompanied by the man who originally gave the information.

On my arrival at Wurigam, my guide assembled all the women in the village, for the purpose of collecting and washing the impregnated earth: this part of the business being entirely assigned to them, and each being provided with a small broom, a vaning basket, and an hollow board to receive the earth, moved to a thin jungle which lies close west of the village.

On arriving at the ground, they separated, and took to small nálas, or rather rutts and breaks in the ground, into which the course of the water is most likely to drive the ore, and removing the gravel with their hands, they swept the earth underneath into their vaning baskets, by the help of which they further cleared it of the smaller stones, and threw it in the hollow board above-mentioned.

Having collected a sufficient quantity of earth, they removed to a neighbouring tank, in order to separate the metal which it contained, and this was done by placing the hollow board, which contained it, in such a situation in the water as to be just overflowed when resting on the ground, and no more. They then with great dexterity stirred the earth about with the hand, so as to keep it as much as possible over the centre of the board, that the metal should fall into the pit of it, by its own weight, and that the earth should wash off over the edges. This operation (which generally lasts a few minutes) being performed, they returned the metallic substance, which they thus cleared, into a piece of a broken earthen pot, examining beforehand whether or not it contained any gold. This process is performed by inclining the board, and with the hand passing water over the metallic sediment which ad-



heres to it ; a method which from the superior specific gravity of the gold drives the iron particles before it, and leaves the heavier metal behind just at the edge, where from the contrast with the dull color of the iron, the golden ore appears perfectly distinct, however small the quantity.

I also caused the women to take up some of the earth at the higher places, and having seen it washed as before, a nearly equal quantity of gold was obtained, which evidently shows that the ore is homogeneous to that soil, and not fortuitously driven into the rutts from any distant place by a casual fall of rain.

Soon after, I heard that considerable quantities of that metal were formerly extracted from mines near Marcupam (a village about three miles south of Wurigam) : I accordingly moved on the same evening to that place.

On the next day (18th), having collected a sufficient number of the men\* who gain their livelihood by this apparently unprofitable trade, I went to these mines, which lie about one mile west of Marcupam, in a thin jungle connected with that near Wurigam, and situated alike with respect to the range of small hills above described.

I descended into the first mine, which was shewn me, preceded by two of the miners with lighted lamps, by means of small holes made in the sides of it for that purpose. I shall not enter at this place into any circumstantial detail of it, having subsequently had an opportunity of examining these mines with more attention than I did at this period ; and consequently shall refer the reader to the separate account given of them at the end of this paper ; I remained long enough in the present one, to see some of the stones extracted, and passed from hand to hand in baskets by the miners who were stationed at different stages of the mine, for the purpose of conveying them above ground.

Having procured about four cooley load of stones, I removed to a second mine, which proved to be about ten feet deeper than the former, and having caused the people to extract a sufficient quantity of stoues from the second pit, I then returned to Marcupam, in order to try the materials I had just collected.

Here the women resumed their part, and having taken charge of the stones, they took them to a large rock, where they pounded them into perfect dust, which being placed in the hollow board above mentioned,

\* The extracting of the ore from the bowels of the earth being attended with considerable danger, owing to occasional falls of the earth, which they have neither the means or the skill to support, as is usual in mines ; also the bodily strength which the breaking of the stones requires, makes it that men alone attend to this part of the business.

they took it to a well where the stony substance being washed off (as in the first case), a sediment likewise remained, which yielded an equal quantity of gold, as would have been extracted from an equal bulk of the earth near Wurigam. I then tried the earth at the surface at several places, and also that which was extracted along with the stones; the former yielded a small quantity of metal, the latter contained nothing but iron.

Having thus convinced myself that a considerable tract in those parts was impregnated with gold, as had been reported, I returned to Battamangalam on the 19th, where having been met by the Amildar, I inquired of him whether he had heard of those mines before. His answer was "that they had been known many years since, and that Tippú had formerly sent a Bramin (named Rájá RAMCHANDER) to examine them; but as it was found after a trial of several weeks, that the produce just balanced the expence, and left no profit to the sircar, it was dropped as a bad concern."

This account exactly corresponded with that given me by the rayats at Wurigam (near which place the Rájá RAMCHANDER had carried on his investigation); having however inquired more particularly of them, how he had proceeded to business, it appeared that he never visited personally any part of the impregnated ground, and that he relied through the whole of his inquiry on the information given him by his servants. The rayats assured me that he never visited the mines at Marcupam.

Having traced this golden ore (however thinly spread) through an extent of about 10 square miles, I thought it probable that more of it might still be discovered at a greater distance. I accordingly continued my inquiries, when an old woman inhabiting a village called Buksagar\* gave an account that gold was occasionally found on the banks of the Pal-aur river, near that village, and that she had frequently attended to the extracting of it.

My public calls requiring that I should at some period or other visit that part of the parganah of Colar, I resolved on moving immediately to it, for the purpose of verifying this new intimation.

I arrived at Buksagar on the 22nd of February, and soon collected a sufficient number of persons to carry on the inquiry. They took me to the southern bank of the river, and I saw them gathering the earth at the surface to about the depth of three inches, which yielded a product fuller than that collected near Wurigam. I observed more-

\* A village on the north bank of the Pal-aur river, five miles east from Battamangalum, eight miles from Wuriam, and under the same parallel of latitude with the latter.

over that the earth being washed off, there appeared hardly any iron mixed with what remained, and I frequently perceived the golden ore (though in very small quantity) adhering by itself to the board into which it had been collected.

Any metal found in dust on the banks of a river may fairly be supposed to have been driven and deposited there by the stream. I was accordingly induced to suppose that this ore was not homogeneous to the soil where it was found, and in order to convince myself of it, I examined the stratum on the course of the river, about one mile higher up towards its source, and found it equally impregnated with the ore. I then returned to the spot where it was found in greatest abundance, and having extracted earth from a hole about two feet deep, the same being tried yielded nothing but iron. Though this experiment was favourable to my opinion, I had cause afterwards to regret not having examined the stratum at this part of the river in a more extensive manner.

A variety of circumstances compelled me at this time to extend my observations no further; and my want of professional knowledge would have induced me to give up the pursuit, had not it been for the following circumstances:

My preceding observations on this subject having been communicated to several persons high in rank under the Madras Presidency, and the report having gone abroad that gold mines had been discovered in Mysore, it excited the curiosity of some friends, who recommended that I should revisit the impregnated tract and extend my inquiries as far as I was able.

From a consciousness of my inability, I confess that I did not undertake the task without some hesitation. Having however had an opportunity of meeting the Dewan of the Rájá of Mysore at Bangalore, in April, and having found him disposed to assist my exertions as much as lay in his power, I resolved on revisiting the mines at Marcupam, and leaving Bangalore on the 19th of April, I arrived at Cargury on the same day\*.

When once a subject has been started, the mind easily follows it up, and a variety of circumstances, originally slightly considered, recur naturally to our recollection, as they tend to support a favourite opinion, and to forward the object of our pursuits.

As I surveyed the pergunnah of Uscotta, in the year 1800, I heard a story told by the Bramins, the purport of which was, that "in pros-

\* A small village on the west bank of the Poni-aur river, in the province of Uscotta, fifteen miles distant from Bangalore.

perous years, when the gods favoured the zillah of Cargúry with an ample harvest, now and then *grains of gold were found* in the ears of the paddy which grows under the tank laying close north of that village."

I treated this at the time as a fabrication, and took no farther notice of it. But now that my mind was taken up with inquiries of that nature, on my return to Cargúry, I began to conceive that there might be more truth in the story than I at first had imagined; as it was by no means impossible that the banks of the Poni-aur might be equally impregnated with golden ore as those of the Pal-aur, its sister river, and that the plant cultivated in its vicinity might very well in that case carry up now and then a grain of gold in its growth. I accordingly resolved on trying the stratum on the banks of the Poni-aur near Cargúry; but the natives at that place being totally ignorant of the method of washing the earth, and having no utensils with me for that purpose, I was reduced to collect a certain number of loads from various places at random, and to take them along with me until I could procure gold searchers to examine their contents.

On my arrival at Daseracottapilly\*, (22nd,) I soon procured people from Wurigam to attend me, and by my experiments obtained three sparkles of gold from a load collected on the banks of an anicut or dam, which crosses the Poni-aur opposite to Cargúry: so that although the other specimen yielded nothing but iron, this instance alone was sufficient to establish that the Poni-aur, as well as the Pal-aur, rolled gold dust in its stream.

The next object for consideration was, at which place these two rivers so near to their source could have collected this ore: this I thought was a question which came home to myself, as having surveyed them to a considerable distance towards the hills from which they flow, I ought to know best the different tracts over which they went. It then occurred to me that the gold which I had formerly collected near Wúrigam and Marcúpam was generally found near certain small hills, consisting of deep red clay, mostly flat at the top, and covered with that sort of hard metallic stone which in Bengal is called kankar, forming a hard crust, appearing as it were a cover to the hill.

Now, with regard to the Poni-aur, I recollected that there were three small hills of this description† about half a mile S. W. of Cargúry, which in the rainy season supply water to the tank which lays north of it, and that this river passed pretty near a long range of this kind

\* This village is on the road from Bangalore to the Carnatic by Malure, distant forty-nine miles east of Bangalore, and ten miles west of Battamangalam.

† Pattendore Hills.



near Uscotta, Sattiar, Sulvehelly, and Janganicotta, an extent of nearly twenty miles. Again, with respect to the Pal-aur, I noticed that I had lately traced it through similar hills towards the centre of the province of Colar. From this I concluded that all such hills in this neighbourhood might be alike impregnated with the golden ore, and be the original mines where it was created. I accordingly determined on following up the tract in which they lay, and examining the stratum near every one of them up to certain high grounds near Rondúr Papanhelly, where they seem to terminate.

The small hill north of Daseracottapilly\* being of this description, it naturally became the first subject of investigation. Having now collected a regular working party, consisting of a Duffadar, or overseer, and thirty Dheru women, I began to search the adjacent ground, and the first place which I examined on the N. E. side of the hill, yielded an ample produce of very fine gold dust. I was equally successful when I examined the other sides, and particularly noticed that a sort of red earth generally two feet deep, and succeeded by a white calcareous earth of equal depth, the under-stratum of which is composed of large white decayed stones, seldom failed to contain an ample proportion of metal, —a circumstance which induced me to think that the same sort of earth, though remote from the hills, might be likewise impregnated with ore; and in order to satisfy myself of it, I removed to a rutt, distant about one and half mile from Baterine Hill, and totally unconnected with it, where having collected a few loads of red earth, and washed it, the first load which was examined yielded (a circumstance wholly to be ascribed to chance) as much as twenty from any other impregnated place. This agreeable surprize, however, did not last longer than the time of trying the remaining loads, which yielded exactly the same proportion as the earth near the hill had done.

Having thus satisfied myself of the merits of this red clay, I directed the gold searchers to spread in various directions at a distance from the hills, and to gather in preference wherever they found it. I had the satisfaction to find my conjectures proved invariably well founded, having tried on that day the tract near Daseracottapilly at more than twelve different places, every one of which yielded a satisfactory product.

It will surprise persons unacquainted with the character of Indians to hear, as I inquired of the inhabitants of the village close to which I had discovered gold dust, whether they ever had noticed particles of it on their ground (some of which are actually large enough to be dis-

\* Baterine Hill.

cernible when mixed with the stratum), their answer was, "That their business being to cultivate the ground, they never troubled themselves to look for gold in the earth, and consequently had never observed it before." I did not hesitate in agreeing with them that they had taken to the most profitable pursuit of the two. Having thus explored the tract near Daseracottapilly, I moved on the 26th to Pedipilly (a small village east of the pass, and about four miles east of Daseracottapilly), and with a view to save a number of useless repetitions, I shall briefly say, that in order to establish the opinion which I had broached respecting the merits of the small hills and red earth above alluded to, I successively examined the whole tract from Baterine to Yerra Baterine Hills, an extent of about twelve miles in length by four in breadth; during which inquiry I only was disappointed twice on more than thirty experiments, and I remained satisfied that the gold dust was not more peculiar to the tract near Wúrigam and Marcúpam than any where else within two miles on each side of the range of small hills or pass above-mentioned: these places being only noticed in preference by the natives on account of their inhabitants devoting more exclusively their time to the searching for gold than those at any of the surrounding villages.

From Pedipilly to Yerra Baterine Hills, the superior stratum is generally composed of a brown earth, mixed with gravel about two feet deep; it is almost every where succeeded by a sort of grey argillaceous earth, and at some places by a white calcareous earth, when the superior stratum alters to a bright red.

During the three days I halted at Marcúpam, I kept twelve men in constant employment, both to assist me in collecting specimens of the strata, and to extract gold from the stones. Ten of them were employed the first day in digging out stones, and half of the next in pounding them and extracting the metal—the produce of their labour was in weight *two grains of gold* only.

So small a quantity of metal for so much labour induced me to think that I had not been fairly dealt with; for were these the usual products, it could not possibly be worth these men's while to attend to so unprofitable a trade. I had moreover observed that two mines had been sunk since I had last visited Marcúpam, a sure sign that the business was carried on very briskly. The people who devote their time to the searching for gold, are exclusively of the Dheru (or Pariah) caste. The following is their mode of carrying on the work:

When they resolve on sinking a mine, they assemble to the number of about ten or twelve men from different villages. They next proceed in appointing a Duffadar (or head man) among themselves, whose busi-

ness is to superintend the work, and to convert the products into money. They then make a purse to purchase a sufficient quantity of lamp oil, and the necessary iron tools. This being done, partly from a prejudice they entertain that the tract over which a peacock has been observed to fly and alight is that of a vein of gold, they fix upon a spot, and then proceed to business.

Having examined the mines near Marcúpam, I proceeded in carrying into execution the plan which I had formed of investigating the stratum about the small hills extending north of Daseracottapilly, and also the banks of the Pal-aur river.

The service having taken me to a different tract from the 1st to the 4th of May, I had no opportunity of making any observation until I arrived at a small village called Nellore on the western bank of the river, one and half mile north of Battamangalam. I turned my attention in the first instance to the banks of the Pal-aur, from the bed of which I obtained a few particles of gold, much the same in point of quantity as what I had found at the second place, which I examined near Baksagur.

Having noticed on the same day a deep rutt in the ground, exhibiting the same sort of red clay as I have formerly described when near the hills, running from west to east towards the river, I thought it offered a good opportunity to establish whether the golden tract extended so far to the eastward; as it would at the same time (in case of success) explain whence came the gold dust found in the river, my experiments proved perfectly satisfactory, and I remained well assured (this impregnated spot lying far beyond any possible overflow of the river) that it did not receive its contents from the stream, but on the contrary, supplied it with golden ore. I also formed an opinion that the metal was not more peculiar to the hills than to the whole tract in which they lay, comprehending a space of several miles east and west of them, and extending more particularly to the eastward, somewhat beyond the banks of the Pal-aur river. This induced me to examine the interval between Mútiál Ghât and Manigatta Hill, an interval of about eleven miles in extent, through which the range is interrupted, and presenting a tolerably even surface, only encumbered with large granite stones, which bespoke more of iron than of gold.

On the 5th of May, moved to Carapanhelly, near Baterine Hill: on this and the following day, examined successfully the whole of the tract north of the hill. The stratum being at some places of a deep-brown earth, succeeded by a grey argillaceous earth; at others of a red clay, succeeded by white calcareous earth and stones.

On the 7th, moved to Shapúr, examined the ground at several places in the interval; stratum as before; found it everywhere equally impregnated. On the same evening, visited the banks of the river (about two miles east from Snapúr) with equal success, noticed a bed of white calcareous stones (the common under-stratum of the metallic earth) crossing the river from bank to bank where I stood.

On the 8th, moved to Manigatta, close north of which place the range of small hills resumes; found gold at every place which I examined in the interval, but evidently decreasing in point of quantity. Strata as before.

On the 9th, examined the course of the river which crosses the impregnated tract close north of Manigatta, and touches the south extremity of the small hills north of it. Made trial of the soil, and more especially of the highest earth collected at the surface within reach of the stream for upwards of two miles west of the hills, and gave up the pursuit when still obtaining a few particles of gold from the earth taken at random within reach of the course of its water.

On the 11th, 12th, 13th, and 14th, examined the tract about the Manigatta, Wállúr and Yeldúr Hills; found it every where (though extremely thinly), impregnated with gold, the upper stratum being generally composed of a deep, brown earth, and succeeded by a livid-flesh-colored calcareous earth at some places, and particularly about Yeldúr, changing to a beautiful pink color.

On the 15th, 16th, and 19th, examined successfully the cluster of small hills which lay east of Randúr Papanpilly. These small eminences terminate, to the northward, the frequently interrupted range which has been the subject of the present investigation, and were the winning goal I had kept in view ever since I began this second inquiry. Having however taken notice of a small hill lying about seven miles due east of these, near Ramasandra, and apparently of the same description; on the 26th I examined the stratum both in the interval and about it, and found the earth every where impregnated with gold: having thus traced it uninterrupted right across this extensive pergunnah, and being precluded of any farther investigation by the chain of large hills which lay north of Ramasandra, and are connected with the eastern ghâts north east of Panganúr.

The country north of the Randúr Papanpilly hills loses altogether its ardent and ungratifying appearance, it exhibits an extensive plain, beautifully variegated with cultivated fields, tanks, and mango groves; a scenery very seldom to be met with near the golden tract, which is almost every where covered with a scanty, unthriving jungle, the soil being supposed by the natives to contain certain foul substances inimi-



cal to agriculture. Eager as they seem every where else to avail themselves of the vicinity of rising grounds to construct tanks, here on the contrary, hardly any structure of this sort is to be seen. Nay, at many places, the ráyats turn by means of artificial water-courses the noxious streams, which during the rainy season descend from those chalky pits, towards their fields, thus unknowingly exemplifying that great common-place of moral philosophy, which teaches us to disdain the hidden and corrupting treasures of the earth, and look to the plough for abundance and prosperity.

*Particulars of the mines examined by Lieut. WARREN, in the month of April, 1802.—1st Mine, west of Kembly.*

The entrance of this mine is at the level of the tract in which it stands. It is in breadth two feet; in length, four feet; in perpendicular depth, about 30 feet; in extent 50 feet.

The upper stratum is composed of a deep-brown earth to the extent of about  $1\frac{1}{2}$  feet, (No. 1.) Then succeeds a stratum of grey argillaceous earth, mixed with gravel, about one foot deep, (No. 2.) Next follows a bed of deep-brown earth, similar to that at No. 1, four feet deep, (No. 3,) under this is a stratum of hard grey and yellow clay, four feet deep (No. 4,) where the mine ceases to descend perpendicularly; and an even space is met at this stage, intended as a place of rest.

From this the mine descends at an angle of about  $10^\circ$  from the foot for four feet deeper. It then branches off into two separate galleries, one of which strikes to the southward, and at six feet offset subdivides into two branches, one of which follows the original southerly direction to the extent of 36 feet, the stratum being of a hard whitish argillaceous earth, (No. 6). The other branching off in a south-easterly direction, to an extent of 20 feet, the stratum being the same as at No. 6.

The other principal gallery extends westerly in a straight direction, at present only accessible to 24 feet, where it is encumbered with fallen earth, (the stratum being the same as No. 6, in the two preceding galleries,) in each of which the metallic stones are found.

These stones are generally of a siliceous nature, of a black, changing to deep rust colour, where they seem to decay. A few parallel streaks are observable in them, about which adheres a green and yellow substance, which marks their value to the natives as they search the mines, (No 7.)

N. B. Although this mine appears to have been much searched, it is still very productive, at least in the ideas of the natives.

#### *2nd Mine.*

Being the same with that visited by me on the 28th of February.

The entrance of this mine is in a hollow place, about six feet below the level of the surrounding tract, and lies nearly due west of Súrúnpally. It is in breadth two feet ; in length, four feet ; in perpendicular depth, about 45 feet ; in extent, 56 feet.

The upper stratum is composed of a black argillaceous earth, mixed with gravel, about three feet deep, (No. 1.) Then succeeds a stratum of dark-brown earth, mixed with stones, about six feet in extent (No. 2), under this is a bed of hard clay, at some places in black and yellow streaks, in an oblique direction ; about four feet deep, (No. 3.) Next follows on the north and west sides a bed of large black stones, of a hard, compact argillaceous nature (No. 4); the stratum on the east and south sides being of the same sort as (No. 2). Next follows a stratum of black earth, mixed with gravel, about four feet in extent (No. 5), where the mine ceases to descend perpendicularly, and where (as in the preceding one) a resting place is found.

The mine then descends at an angle of about 20° from the foot, for 32 feet direct ; the stratum being composed of hard black clay (No. 6,) in which are found two sorts of stones. The one similar to that described No. 4, containing in the opinion of the natives no metallic substance whatever. The other being a hard white siliceous stone, about which generally adheres a deep orange soft substance, which marks its value to the miners, and generally appears where the stone splits as it is broken (No. 7).

[The particulars of two other mines differ in no material respect from the preceding ; they are accordingly omitted.

In the Madras Literary Gazette for May 10th, 1834, appeared an interesting editorial notice, derived from official documents, of the gold mines in the province of Malabar, the first printed account, as it is stated, of these gold works.

There is also a notice of the same mines in the Mechanic's Magazine for 1834, page 43, which states that although they became known to Mr. DUNCAN, Governor of Bombay, in 1793, they had remained neglected for forty years, until the Madras Government lately issued an order for registering all gold found in the collectorate of Calicut. Surveyors were also deputed to examine the district.

The principal mines examined by the late Dr. WARD, according to his report, were five miles S. W. of Nelambúr : their depth, and the mode of working them, resemble the foregoing description. The produce from 66 lbs. of the earth was about one grain. The African sands sometimes yield as much as 36 in the same quantity. The total quantity extracted per annum does not exceed 750 ounces, or 30,000 rupees value. The mines now worked are Cherankode, Devala, Nelyalam, Ponery, and Pulyode, in the Wynaad district : the rivers Srupunjee, Polwey, and Tirumpaddy rivers in Calicut ; Punaur and Malapuram rivers in Kurmenad ; Pandalúr and Aliparamb rivers in Nedingauad ; Kadalaondy and Parpanangady on the sea shore in Shernad ; Kapil, Aripnad, and Tirámaly Hills in the Ernaad district ; besides twenty river works unnecessary to enumerate.—ED.]

VI.—*Abstract Statement of 412 Villages in Zillah Bareilly. Settlement under Regulation VII. 1822. By H. S. BOULDERSON, Esq. Collector.*

The following statement, for which we are indebted to the Secretary of the Allahabad Sudur Board of Revenue, will give a just notion of the produce of land in the Rohilcund districts.

Pargannah.	No. of Villages.	Total Area in Acres.	Deduct excluded from Assessment.	Málguzári Land.			Jamma per annum of years subsequent to 1241.	Average per acre on Málguzári Land.	Average on Cultivation.
				Cultivated.	Culturable.	Total.			
			Ac.	Ac.	Ac.	Ac.	Rs.	R.A.P.	R.A.P.
1 Bisalpur, . . . .	13	5,128	1,252	3,050	826	3,876	9,352	2 6 6	3 1 0
2 Chaunchalla, . . .	13	4,884	1,170	2,180	1,534	3,714	5,475	1 7 7	2 8 0
Ditto, . . . . .	8	2,339	414	1,340	585	1,925	2,524	1 4 10	1 14 0
3 Krór, . . . . .	58	25,980	8,626	12,740	4,614	17,354	29,724	1 11 5	2 5 0
Ditto, . . . . .	30	17,203	5,320	7,895	3,988	11,883	17,587	1 7 8	2 3 7
4 Farídpur, . . . .	29	11,459	2,558	5,230	3,671	8,901	13,571	1 8 5	2 9 0
5 Nawábganj, . . .	51	23,835	6,567	13,294	3,974	17,268	35,296	2 0 8	2 10 0
Ditto, . . . . .	10	3,844	877	2,427	540	2,967	6,897	2 5 2	2 13 0
6 Aunla, . . . . .	28	17,834	6,754	5,614	5,466	11,080	13,431	1 3 5	2 6 0
Ditto, . . . . .	2	1,919	600	1,033	286	1,319	2,237	1 11 2	2 2 7
7 Shahic, . . . . .	53	23,577	6,997	12,320	4,260	16,580	30,527	1 13 5	2 7 0
Ditto, . . . . .	31	16,742	5,305	7,200	4,237	11,437	20,016	1 12 0	2 12 0
8 Sirsawel, . . . .	23	12,254	2,904	8,310	1,040	9,350	21,360	2 4 6	2 9 0
Ditto, . . . . .	38	17,239	4,226	11,600	1,413	13,013	34,229	2 10 1	2 15 0
9 Sanèha, . . . . .	14	6,230	3,380	2,260	590	2,850	5,433	1 13 6	2 6 0
10 Tissúa, . . . . .	2	419	144	154	121	275	413	1 8 0	2 10 10
11 Ajaon, . . . . .	2	2,262	802	1,035	425	1,460	2,454	1 11 0	2 6 0
Ditto, . . . . .	3	2,658	612	1,675	371	2,046	4,351	2 2 0	2 9 0
12 Kábar, . . . . .	1	529	105	367	57	424	912	2 2 5	2 8 0
Ditto, . . . . .	3	3,489	1,117	2,085	287	2,372	4,286	1 12 10	2 0 10
Grand Total, . . .	412	1,99,824	59,730	1,01,809	38,285	1,40,094	2,60,080	1 13 8	2 8 10

VII.—*Proceedings of the Asiatic Society.*

*Wednesday Evening, the 1st October, 1834.*

[Col. Sir JEREMIAH BRYANT, Sen. Mem. present, in the Chair.]

Lieutenant MACLEOD, Madras N. I., attached to the Burmese Embassy, and Lieutenant-Colonel JAMES LOW, Resident at Lucknow, proposed at the last Meeting, were balloted for, and duly elected as members of the Society.

Read a letter from N. WALLICH, Esq. M. D. Acting Secretary of the Agricultural and Horticultural Society of Bengal, expressing the thanks of the Society for their present of Kandahar tobacco, cotton-seeds, &c.

Read a letter from Professor FRANK, expressing his best thanks for the 17th volume of the Asiatic Researches received through their late Secretary, Professor H. H. WILSON.

Also one from CH. D' MEIGS, Secretary of the American Philosophical Society, acknowledging receipt of volumes 16th, 17th, and 18th of the Asiatic Researches, and volume 1st of the Journal As. Soc.

Extracts were read of private letters from Professor WILSON, and Mr. GEORGE SWINTON, on subjects interesting to the Society.

The celebrated sculptor CHANTREY has at last undertaken to execute the bust of our late Secretary. Some delay is anticipated, as he is at present engaged in a colossal equestrian statue of Sir THOMAS MUNRO for Madras, and a full length of Sir J. MALCOLM for Bombay.

A fresh supply of the 15th volume, Asiatic Researches, was required, all hitherto sent home having been disposed of.

Sir DAVID BREWSTER is at present engaged in a work on the crystalline lenses of animals, and he is anxious to procure specimens of the eyes of all the fishes of the Ganges. Those who have opportunities of supplying this desideratum are requested to wrap the eyes up in thin-sheet-lead, numbered with reference to a catalogue of their names and species, and then all may be enclosed together in spirits of wine. Mr. SWINTON thus sent home the eyes of elephants, tigers, &c. on a former occasion.

Mr. SWINTON, referring to the notice in page 304 of the Journal for July 1833, intimates that he has received back from Sir D. BREWSTER the amount of Indian subscriptions for the polyzonal lens, with bank interest at 2 per cent., and that he holds it at the disposal of the subscribers to be paid to their agents in England. (A notice to this effect is printed on the cover of the present month.)

#### *Library.*

Read a letter from J. VAUGHAN, Esq. Librarian of American Philosophical Society, forwarding the undermentioned books for presentation.

Transactions of the American Philosophical Society, volume 4th, part 3rd, new series.

Facts, observations, and conjectures relative to the Generation of the Opossum of North America, in a letter from Professor BARTON to Mons. ROUME of Paris.

Laws and Regulations of the American Philosophical Society.

Note of the effect upon the magnetic needle of the Aurora Borealis visible at Philadelphia on the 17th May 1833, by A. D. Backe.

Observations on the disturbance in the direction of the horizontal needle, by A. D. Backe.

Memoirs of the Historical Society of Pennsylvania; and various pamphlets on the subject of canals and institutions for education.

The following works were also presented :

Memoirs of the Astronomical Society, volume 7th—*presented by that Society, through the Honorable the Court of Directors.*

Select papers on expressing the languages of the East in the English character—*presented by Mr. Trevelyan.*

A brief account of the religion and civil institutions of the Burmans—*by H. N. Thakoor.*

Journal Asiatique, Nos. 73 and 75,—*by the Asiatic Society of Paris.*

Boorhání Qátiu, a Dictionary of the Persian language, a new edition, edited and printed by Hakím Abdulmojid—*by the editor.*

#### *Museum.*

Model of a musical instrument and a battle-axe used by the hill people near Hazáribagh—*presented by Lieutenant J. Awdry.*



Specimens of the shells and corals from the Isle of Socotra were presented by Mr. J. CURNIN, on the part of Mr. H. V. LYNCH.

Specimens of the rocks in the jungle mehals, particularly of the strata exposed to view by the new road, cut in the Katjor pass of the Dalma range of hills, separating Burrabhum and Pátkún from Dholbhúm and Singhbhúm; were presented by Lieutenant Western, Engineers.

The fossil tooth alluded to in Dr. SPILSBURY'S last communication, was received from Dr. Row.

Specimens of basalt, white porcelain clay, coal, and pyrites from Sadiya in Assam were presented by Lieutenant H. L. BIGGE, Adjutant, Assam Light Infantry.

A note was read from Lieutenant ARCBOLD, enclosing a letter from an Officer of H. C. Sloop Coote, stating the impossibility of finding a conveyance for the mummy left there by him, in consequence of the prejudices of the Mahomedan seamen. It had become necessary, after many endeavours to get it away from Mocha, to bury it at that place!

Read a letter from Lieutenant W. FOLEY, dated Khyook Phyoo, Arracan, 6th September, transmitting Journal of a tour through the *Island of Ramree*, with a Geological Sketch of the country, and brief account of the customs, &c. of its inhabitants.

Extracts from Lieutenant FOLEY'S journal were read, and the thanks of the Society were voted for his valuable communication.

[The journal will be published in an early number.]

A notice of a new coin with the monogram of figs. 1 and 8, Plate ix. of Hindu coins, volume iii. Asiatic Society's Journal, was received from Major STACY, and read.

A note by the Secretary was read, on the perfect identity of the inscriptions of the *lath* of FEROS SHAH at Dehli; BHIM SEN'S *lath* at Allahahad; and the column bearing the same name near Bettiah.

[The notice of this curious and important fact will appear in the next number.]

### VIII.—Miscellaneous

#### 1.—On the making of Chinese Paper; translated from the 23rd Volume of the *Pun Tsaou Kang Muh.*

[From the Trans. Soc. Arts, xlix. pt. 2.]

In ancient times, bambus were connected together, and letters burnt on them, to form books; and hence the several characters employed to denote papers and documents are formed partly with the character for "bambu."

In the time of the Tsin and the Han dynasties, letters were written upon silk cloth; and hence the characters for silk and cloth are component parts of the character used for paper.

In the time of the Emperor Ho Te, (A. D. 100,) Tsac Lun began to take the bark of trees, old silk of different kinds, fishing-nets, and hemp, and boil them to rags, and make paper of them, which was used throughout the whole of the empire.

Another authority says, the people of Shuh, on the western side of China, use hemp or linen to make paper; the people of the East, in Fokin, use tender bambu; the people of the North, the bark of the mulberry; others use the rattan; some, mosses or lichens; some, the straw of wheat or other grains; some, the cocoon of the silk worm; and others, the bark of the Chu-tree (syn. of Rnh), the *Brousonettia*.

*Sha Che, or Crape Paper.*

This paper is brought from among the mountains of Nanking, in the province of Kwang Se.

In spring, during the first and second moons, they take the bark of a tree called Ruh-muh (*Brousonettia Papyrifera*), and having pounded it, throw it into a stone reservoir of pure water, where they leave it to steep till it is fit for use. They then take it out with the sediment, and pouring into it cow-skin glue, boiled with water, stir all together. Taking up this mixture with a mould of bambu screen of the size required, they put it out into the sun to dry, and it becomes crape paper.

The Chinese paper called touch-paper (or paper fuel) is made at the village called Peih Keang, a few miles from Canton, of the variety of bambu called Lang.

At the beginning of summer, during the fourth and fifth moons, the young sprouts of the bambu are cut off just as the leaves are beginning to grow, and, having been beaten flat, are thrown into a lime-pit to steep for about a month. They are then taken out, washed clean, and dried in the sun. After which, they are pounded small, passed through a sieve, and laid up. The kernel of the Longan fruit (*Dimocarpus longan*) is also used, being pounded small, dried in the sun, and passed like flour through a sieve. When making the paper, this powder is put into clear water, stirred about, then taken up with a mould made of bambu screen, and the water left to run off. It is afterwards applied to a heated wall to dry, and the paper is then complete.

For coarser or finer paper, a coarser or finer mould is used.

The person who made the drawings says, the bambu is cut into lengths of about three feet, tied up into bundles of seventeen each, and put into running water, where it stays six months. It is then put (in the same bundles) into pits made in the ground, mixed with quick lime made from the shells of the *Venus Sinensis*, pressed down with weights, and left for six months longer. The bundles will have been thus soaked for twelve months: they are then taken out, cut into short lengths, put into one of the usual Chinese pounding mills, and beaten down into pulp; being stirred occasionally, so as to present a new surface; about four hours' labour will break it down.

Pits, twelve covids deep and ten long, contain 2000 bundles of seventeen pieces each, weighing about 24 catty, or 32 pounds.

Cisterns are about eight covids long, in two partitions, two and six broad, and two pailfuls of water are used to one of the pulp.

*King Yuca Paper.*

During the fourth moon, at the close of spring and commencement of summer, the bambu shoots are cut off at the length of three or four covids, (14-625 inches,) and the size of six or seven inches, and then thrown into a lime-pit to steep for about a month. They are then taken up, washed clean, and bleached every day, till they are of the purest white; after which, they are dried in the sun, pounded small, and passed through a very fine sieve, and the finest and whitest part of the pow-

der taken for use. With this is used also the best white cotton of Loo Chow, ten times bowed (or bolted), and the very light cotton which is uppermost taken for use.

Rice-water, made from the whitest rice, being mixed with these two ingredients, the whole is taken up with a mould made of bambu screen of the size required, and then applied to heated wall to dry.

This forms the whitest and finest King Yuca paper.

The above notes were accompanied by seven outline drawings, made in China, of the various processes of manufacturing paper from the bambu, which drawings, by the liberality of Mr. REEVES, have been placed in the Society's Library.

## 2.—*Preventing the Adhesion of Earthy crust to the Inner Surface of Steam Boilers.*

[From the Trans. Soc. Arts, xlix. pt. 2.]

Almost all natural waters hold in solution both carbonate and sulphate of lime, two earthy salts, of which the former is thrown down by bringing the water to a boiling heat, and the latter by evaporation. On this account it is, that if the inside of a steam-engine boiler be examined, after having been in use for a few days, it will be found to contain muddy water, and an earthy crust will be seen adhering to the iron plates of which the vessel is formed. The rate at which this crust is deposited depends on the hardness of the water employed, that is, on the proportion of the above-mentioned earthy salts which it contains. This crust is a much worse conductor of heat than iron is, and, therefore, a boiler lined with it, even to the thickness of the tenth of an inch, possesses the following defects. The water which it contains is not so soon brought up to the boiling point, and a greater quantity of fuel is required to produce a given quantity of steam, because a large proportion of the heat given out during its burning is carried up the chimney and lost. It becomes, therefore, necessary, from time to time, to remove this crust, which is naturally done by a hammer and chisel; but this operation not only incurs a waste of time, but the boiler is often seriously injured, and rendered leaky by means of it.

It has been found, if a few potatoes are thrown into the boiler when it is again filled, after having been cleaned out, that the formation of crust is sensibly retarded, and that the adhesion of it to the sides of the boiler is greatly weakened, so as to allow of its being detached more speedily, and with much less hazard.

Another method of producing the same effect has been pointed out to the Society by Mr. JAMES BEDFORD, of Leeds, druggist. He put into a large steam boiler between two and three gallons of sperm oil foots; and found that, after eight weeks constant use, the deposit of crust was very small compared to what it used to be from the same water alone, and also that the crust could be cleared off by means of a common stiff broom. The application of oily matters for this purpose, though original on the part of Mr. BEDFORD, is not absolutely new; for the Society have been informed by one of their members, that he has known an iron boiler using Thames water preserved in constant use for seventeen years by cleaning it often, and smearing the inside with oil or tallow after each cleaning.

The Society, however, have reason to believe that neither of the above methods are in common use, and have, therefore, directed this short statement to be published for the benefit of those whom it may concern.

*Meteorological Register, kept at the Assay Office, Calcutta, for the Month of September, 1834.*

Days of the Month.	Barometer reduced to 32° Fahr.			Thermometer in the Air.				Depression of Moist-bulb Thermometer.				Hair Hygrometer.		Rain. Inches.	Wind.			Weather.			
	At 4 a.m.	At 10 a.m.	At 4 p.m.	Minimum at 4 a.m.	At 10 a.m.	At 4 p.m.	At 10 p.m.	At 5 a.m.	At 10 a.m.	At 4 p.m.	At 10 p.m.	At 10 a.m.	At 4 p.m.		Morning.	Evening.	Morning.	Noon.	Evening.		
1	.691	.716	.698	.683	.80.8	.85.8	.88.1	.88.1	.88.1	.88.1	.82.2	.82.2	.82.2	At 4 p.m.	.00	o.	S. E.	o.	clear.	clear.	rain.
2	.680	.684	.672	.654	.81.1	.87.8	.89.5	.86.8	.87.8	.87.8	.82.4	.82.4	.82.4	At 10 p.m.	.60	o.	S. E.	o.	clear.	clear.	cl. rn.
3	.673	.616	.520	.590	.80.4	.87.0	.89.0	.87.8	.87.8	.87.8	.80.7	.80.7	.80.7	At 10 p.m.	.30	e.	E.	e.	do	do	do
4	.543	.580	.492	.503	.79.8	.86.1	.89.8	.87.8	.87.8	.87.8	.80.4	.80.4	.80.4	At 10 p.m.	.20	e.	S. E.	e.	showery.	showery.	do
5	.637	.612	.606	.648	.79.1	.85.9	.91.8	.87.7	.87.7	.87.7	.81.6	.81.6	.81.6	At 10 p.m.	.90	ne.	S.	ne.	clear.	clear.	do
6	.657	.680	.678	.650	.80.0	.86.3	.92.7	.88.3	.88.3	.88.3	.83.8	.83.8	.83.8	At 10 p.m.	.90	o.	S.	o.	do	do	dull
7	.627	.633	.618	.638	.82.5	.87.3	.92.0	.90.5	.90.5	.90.5	.89.2	.89.2	.89.2	At 10 p.m.	.40	o.	n. e.	o.	overcast.	overcast.	lightning.
8	.628	.660	.622	.635	.86.4	.88.5	.93.5	.93.2	.93.2	.93.2	.87.2	.87.2	.87.2	At 10 p.m.	.90	o.	n. e.	o.	clear.	clear.	clear.
9	.466	.540	.470	.555	.83.5	.88.9	.91.0	.88.7	.88.7	.88.7	.82.8	.82.8	.82.8	At 10 p.m.	.90	E.	var.	E.	overcast.	overcast.	do
10	.530	.560	.510	.624	.82.0	.87.2	.91.6	.88.4	.88.4	.88.4	.81.5	.81.5	.81.5	At 10 p.m.	.90	E.	n. e.	E.	do	do	do
11	.602	.678	.556	.603	.81.0	.86.0	.87.2	.86.4	.86.4	.86.4	.82.2	.82.2	.82.2	At 10 p.m.	.45	E.	n. e.	E.	thun. sho.	thun. sho.	do
12	.611	.630	.550	.632	.81.2	.86.6	.88.0	.87.1	.87.1	.87.1	.82.2	.82.2	.82.2	At 10 p.m.	.10	o.	E.	o.	fine.	fine.	haze.
13	.590	.636	.497	.608	.80.4	.86.6	.90.8	.89.3	.89.3	.89.3	.83.1	.83.1	.83.1	At 10 p.m.	.94	o.	S.	o.	gatherg.	gatherg.	clear.
14	.575	.620	.490	.613	.84.0	.87.5	.91.7	.89.4	.89.4	.89.4	.83.4	.83.4	.83.4	At 10 p.m.	.94	o.	n. e.	o.	clear.	clear.	clear.
15	.574	.610	.544	.627	.81.0	.87.4	.91.6	.89.1	.89.1	.89.1	.83.1	.83.1	.83.1	At 10 p.m.	.96	o.	n. e.	o.	do	do	do
16	.608	.716	.619	.687	.81.0	.87.4	.90.2	.88.8	.88.8	.88.8	.83.1	.83.1	.83.1	At 10 p.m.	.02	o.	n. e.	o.	do	do	do
17	.661	.729	.640	.710	.82.0	.88.6	.92.4	.89.8	.89.8	.89.8	.83.1	.83.1	.83.1	At 10 p.m.	.20	o.	sw.	o.	do	do	do
18	.683	.738	.678	.753	.81.0	.84.2	.88.8	.85.8	.85.8	.85.8	.83.2	.83.2	.83.2	At 10 p.m.	.60	o.	sw.	o.	haze.	haze.	clear.
19	.706	.802	.678	.757	.81.0	.84.2	.88.8	.85.8	.85.8	.85.8	.83.2	.83.2	.83.2	At 10 p.m.	.10	o.	sw.	o.	do	do	do
20	.724	.726	.612	.704	.83.2	.84.7	.84.7	.84.7	.84.7	.84.7	.79.3	.79.3	.79.3	At 10 p.m.	.75	o.	sw.	o.	do	do	do
21	.657	.694	.570	.661	.76.9	.83.3	.88.0	.84.6	.84.6	.84.6	.80.4	.80.4	.80.4	At 10 p.m.	.95	o.	sw.	o.	do	do	do
22	.633	.654	.636	.637	.81.1	.83.4	.87.3	.85.0	.85.0	.85.0	.80.2	.80.2	.80.2	At 10 p.m.	.20	o.	sw.	o.	do	do	do
23	.674	.728	.619	.696	.76.2	.83.5	.87.1	.84.9	.84.9	.84.9	.82.2	.82.2	.82.2	At 10 p.m.	.50	o.	sw.	o.	do	do	do
24	.653	.721	.656	.673	.81.0	.84.7	.90.7	.87.2	.87.2	.87.2	.83.1	.83.1	.83.1	At 10 p.m.	.90	o.	sw.	o.	do	do	do
25	.646	.698	.574	.638	.83.1	.84.9	.88.8	.86.8	.86.8	.86.8	.82.7	.82.7	.82.7	At 10 p.m.	.50	o.	sw.	o.	do	do	do
26	.642	.648	.586	.623	.81.0	.84.5	.87.6	.86.1	.86.1	.86.1	.85.0	.85.0	.85.0	At 10 p.m.	.06	o.	sw.	o.	do	do	do
27	.674	.707	.680	.730	.83.1	.85.9	.93.0	.86.4	.86.4	.86.4	.82.0	.82.0	.82.0	At 10 p.m.	.05	o.	ne.	o.	do	do	do
28	.742	.762	.656	.700	.81.2	.85.7	.94.0	.86.4	.86.4	.86.4	.82.6	.82.6	.82.6	At 10 p.m.	.94	o.	ne.	o.	do	do	do
29	.687	.714	.680	.768	.83.1	.85.9	.93.0	.86.4	.86.4	.86.4	.82.0	.82.0	.82.0	At 10 p.m.	.94	o.	ne.	o.	do	do	do
30	.656	.702	.656	.700	.81.2	.85.7	.94.0	.86.4	.86.4	.86.4	.82.6	.82.6	.82.6	At 10 p.m.	.94	o.	ne.	o.	do	do	do
Mean.	.628	.678	.574	.666	.81.2	.85.9	.90.3	.86.4	.86.4	.86.4	.82.6	.82.6	.82.6	Mean.	8.62	light variable.	much rain this month.				

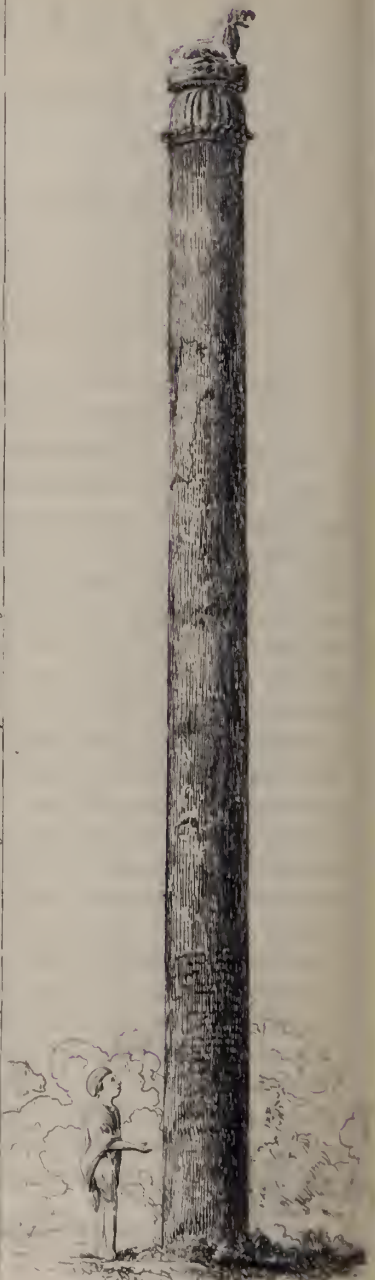
The instruments were all situated as usual.





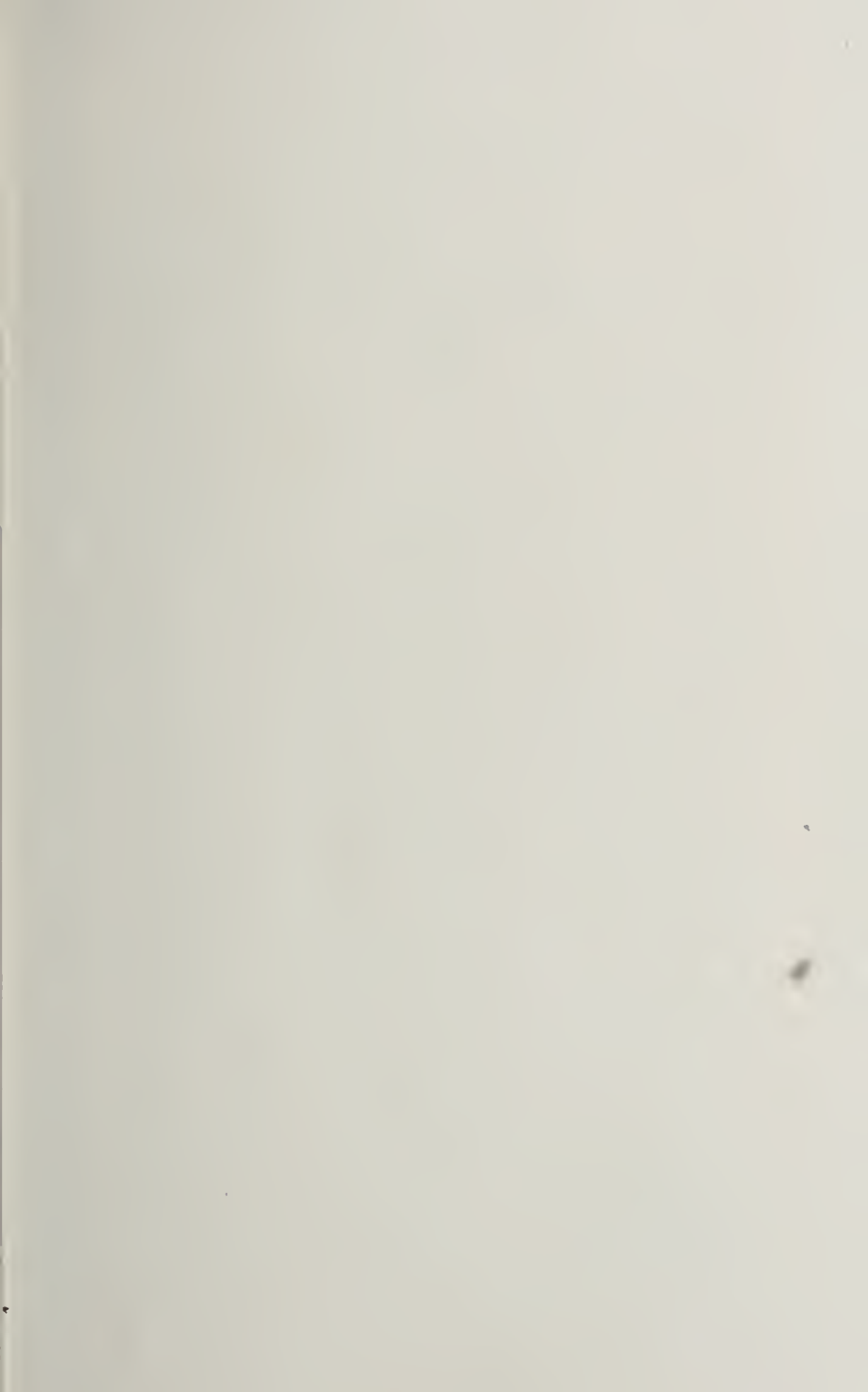


Sculpture in one of the compartments of the Bauddha monument at Sanchi.



Muttiah Lath near Bettiah on the river Gandak

1870







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